

In the name of GOD
Management of respiratory support in
patients with Covid 19

Latest public health information from
CDC

Latest research information from NIH

For health care workers

- recommends using an N95 respirator rather than surgical masks, in addition to other personal protective equipment (PPE) (i.e., gloves, gown, and eye protection such as a face shield or safety goggles) .

Oxygenation and Ventilation

- Normal Saturation of oxygen

Normal	Mild hypoxia
≥%95	%90-95

- For adults with COVID-19 and acute hypoxemic respiratory failure despite conventional oxygen therapy, the Panel recommends high-flow nasal cannula (HFNC) oxygen over noninvasive positive pressure ventilation (NIPPV) (BI)

Features

- **Light weight**
Promotes patient comfort and compliance
- **Risk resistant**
Ensures a smooth airflow for patient safety
- **Universal connector**
Compatible with most heated airway meeting devices
- **Soften nose tip**
Provides maximum comfort for clear patients
- **More flexible**
Fully adjustable head strap conforming fit over the patients ears and the interface hose allows to move comfortably and freely





- For patients with persistent hypoxemia despite increasing supplemental oxygen requirements in whom endotracheal intubation is not otherwise indicated, **the Panel recommends considering a trial of awake prone positioning to improve oxygenation (CIII).**
- The Panel recommends against using awake prone positioning as a rescue therapy for refractory hypoxemia to avoid intubation in patients who otherwise meet the indications for intubation and mechanical ventilation (AIII).

- If intubation becomes necessary, the procedure should be performed by an **experienced practitioner** in a controlled setting due to the enhanced risk of severe acute respiratory syndrome coronavirus 2 exposure to health care practitioners during intubation (AII).



COVID-19 and acute respiratory distress syndrome (ARDS):

- low tidal volume (V_T) ventilation (V_T 4–8 mL/kg of predicted body weight) (AI).
- plateau pressures of <30 cm H₂O (AII).
- conservative fluid strategy over a liberal fluid strategy (BII).
- High PEEP

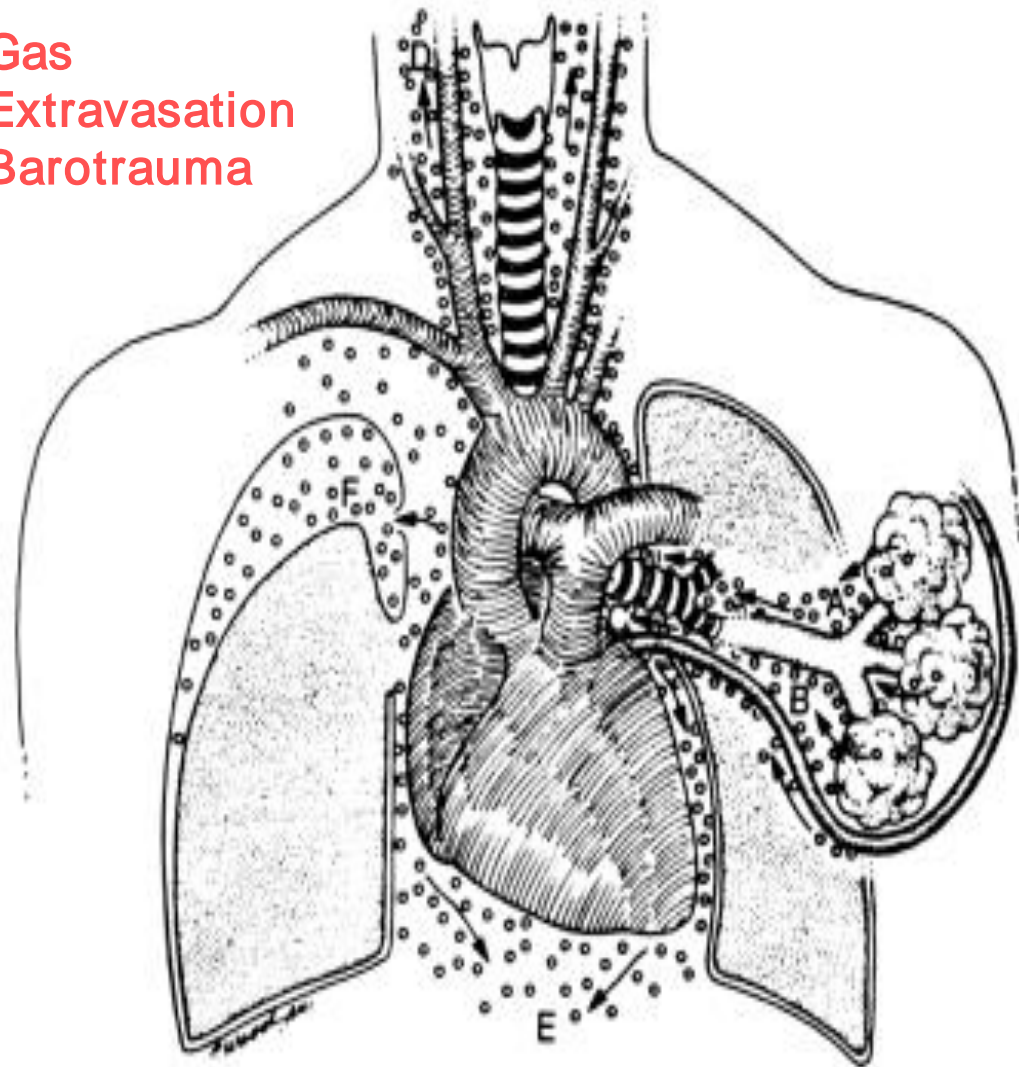
Acute Kidney Injury and Renal Replacement Therapy

- For critically ill patients with COVID-19 who have acute kidney injury and who develop indications for renal replacement therapy, the Panel recommends continuous renal replacement therapy (CRRT), if available (BIII).

Extracorporeal Membrane Oxygenation

- There are insufficient data to recommend either for or against the use of extracorporeal membrane oxygenation in patients with COVID-19 and refractory hypoxemia.

Gas
Extravasation
Barotrauma



Hemodynamics

- For the acute resuscitation of adults with COVID-19 and shock, the Panel recommends against the initial use of **albumin for resuscitation** (BI).
- The Panel recommends against using **hydroxyethyl starches** for intravascular volume replacement in patients with sepsis or septic shock (AI).
- The Panel recommends **norepinephrine** as the first-choice vasopressor (AII).
- When norepinephrine is available, the Panel recommends against using **dopamine** for patients with COVID-19 and shock (AI).

- The Panel recommends against using **low-dose dopamine** for renal protection (BII).
- The Panel recommends using dobutamine in patients who show evidence of cardiac dysfunction **and persistent hypoperfusion** despite adequate fluid loading and the use of vasopressor agents
- For adults with COVID-19 and refractory septic shock who are not receiving corticosteroids to treat their COVID-19, the Panel recommends using **low-dose corticosteroid**

Other intensive care management

- Patients often develop myocardial dysfunction in addition to acute respiratory failure
- Transfer out of the ICU for investigations such as CT scans poses risk of viral transmission

- Administer fluids cautiously for hypovolaemia
- myocardial involvement early with troponin and betanatriuretic peptide (BNP) measurements and echocardiography

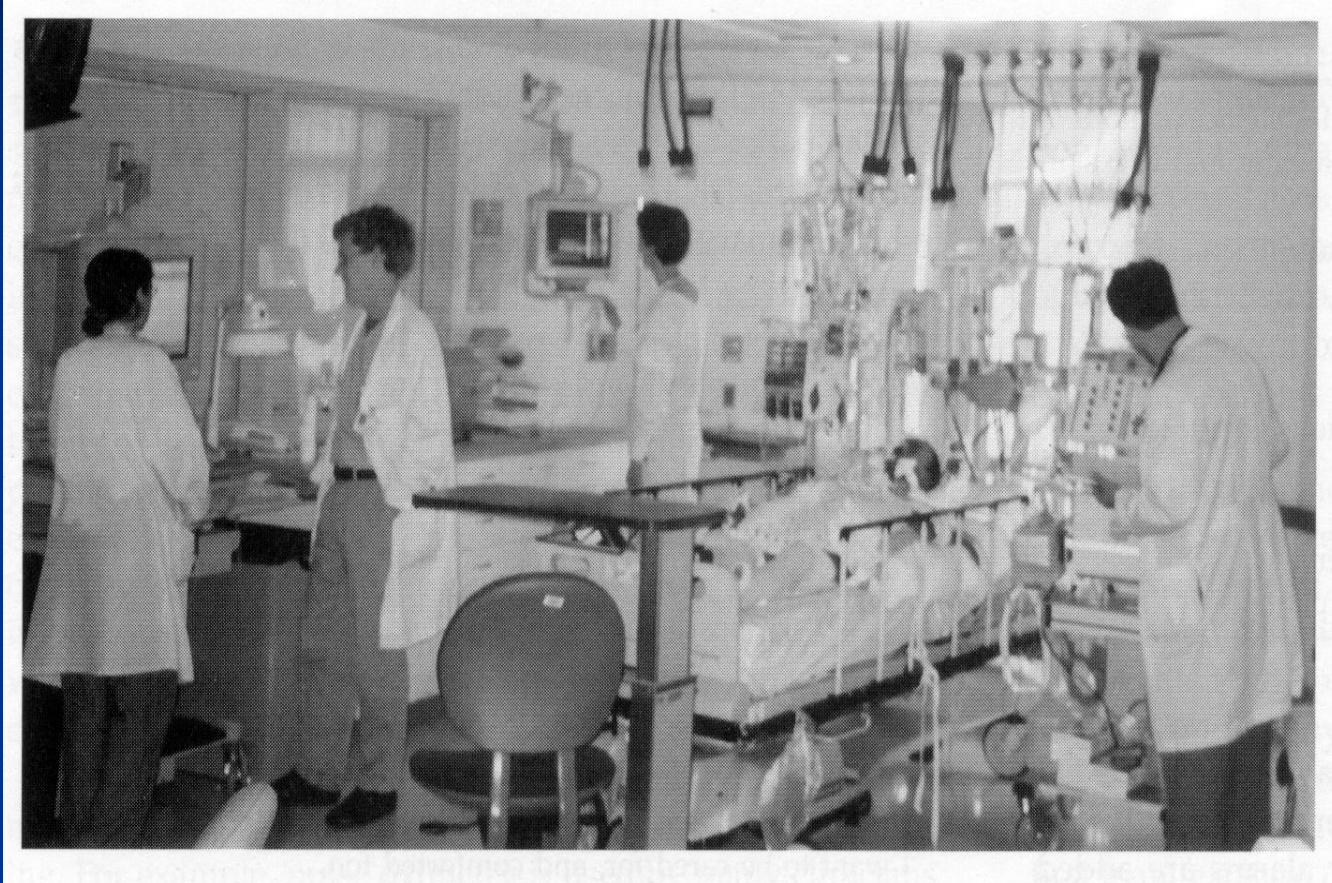
- Oxygen toxicity
- Hemodynamic perturbations
- Nosocomial pneumonia (VAP)
- GIB prophylaxis
- DVT prophylaxis
- Glycemic control
- Early physical therapy
- Weaning
- Family

Do Not Forget That Mechanical Ventilation Is A Support Measure, Not A Therapy For Cardiopulmonary Disease.

To improve outcomes in ventilator-dependent patients, less attention should be paid to the knobs on ventilators, and more attention should be given to the diseases that prompt ventilator dependency.

J. Rasanen

Who's Watching the Patient?



Pierson, IN: Tobin, Principles and Practice of Critical Care Monitoring