

Monitoring COVID-19 ICU Patients



Neurology monitoring

WARNING SIGNS	SUGGESTION
Low level of consciousness index	Consider decreasing sedation

Central venous access

WARNING SIGNS	SUGGESTION
Low central venous oxygen saturation (ScvO ₂)	Check SaO ₂ , cardiac output and hemoglobin
Elevated central venous pressure (CVP)	Check right ventricular function

ECG monitoring

WARNING SIGNS	SUGGESTION
Arrhythmia	Check electrolytes and consider decreasing catecholamines
ST elevation	Check ECG, troponin and contact cardiologist
Increase QT interval	Perform 12-lead resting ECG and consider iatrogenicity, possibly decrease/stop QT-prolonging drugs

Ultrasound evaluation

WARNING SIGNS	SUGGESTION
B lines	Caution with intravenous fluid administration, consider diuretics or ultrafiltration (if RRT)
Lung consolidation	Follow up examination may be used instead of frequent chest X-rays
Lack of pleural sliding	Consider further evaluation to rule out barotrauma pneumothorax in appropriate clinical settings
LV systolic dysfunction	Consider inotropes
RV dilation	Consider inotropes or decreasing PEEP
Large inferior vena cava (IVC) respiratory variations	Careful with PEEP, diuretics and ultrafiltration (if RRT) and consider fluid if shock
Low VTI	Check right and left ventricular function and consider fluid or inotropes

Respiratory monitoring

WARNING SIGNS	SUGGESTION
SpO ₂ < 92%	Consider increasing FiO ₂ or PEEP and prone positioning
Tidal volume > 8 ml/kg	Reduce tidal volume
Plateau pressure > 30 cm H ₂ O	Consider reducing tidal volume and reducing PEEP

Swan Ganz catheter

WARNING SIGNS	SUGGESTION
Elevated pulmonary artery occlusion pressure (PAOP)	Consider fluid restriction, diuretics or ultrafiltration (if RRT)
Elevated pulmonary artery pressure (PAP)	Check right ventricular function
Low cardiac output (CO)	Check right and left ventricular function and consider fluid or inotropes
Low venous oxygen saturation (SvO ₂)	Check SaO ₂ , cardiac output and hemoglobin

Arterial access

WARNING SIGNS	SUGGESTION
Hypoxemia	Consider increasing FiO ₂ or PEEP and prone positioning
Hypercapnia	Consider increasing tidal volume or respiratory frequency
Hypotension	Check cardiac function, fluid responsiveness and consider vasopressors, fluid, inotropes or decreasing PEEP
Large pulse pressure variation (PPV)	Careful with PEEP, diuretics and ultrafiltration (if RRT) and consider fluid if shock
Low CO (PiCCO) (Femoral only)	Check right and left ventricular function and consider fluid or inotropes
Elevated EVLW (PiCCO) (Femoral only)	Consider fluid restriction, diuretics or ultrafiltration (if RRT)

NOTE: This is a selection of the most frequently used clinical variables by clinicians in the acute phase of this disease. This is not meant to be an exhaustive checklist.



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