# MANAGEMENT OF ADULTS WITH SEVERE TO CRITICAL COVID-19

NATIONAL COVID-19 CLINICAL EVIDENCE TASKFORCE

**LEGEND**

**EBR:** Evidence-Based Recommendation
**CBR:** Consensus-Based Recommendation
**PP:** Practice Point

Living guidance

Not prioritised for review

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Guiding principles of care

## GENERAL

**Increased-dose VTE prophylaxis** — CONSENSUS RECOMMENDATION

Consider using increased prophylactic dosing of anticoagulants, preferably LMWH (e.g. enoxaparin 40 mg twice daily or dalteparin 5000 IU twice daily) in **adults with severe or critical COVID-19 or other indications,** unless there is a contraindication, such as risk for major bleeding or platelet count < 30 x $10^9$/L. Where eGFR (see below) is less than 30 mL/min/1.73m², unfractionated heparin or clearance-adjusted doses of LMWH may be used (e.g. enoxaparin 40 mg once daily or dalteparin 5000 IU once daily). **CBR** [Taskforce]

For body weights outside 50-90 kg or heights outside 150-180 cm, calculate the BSA and multiply the eGFR by BSA/1.73. The Taskforce notes that in critical illness, creatinine-based estimation of eGFR can be unreliable. **PP** [Taskforce]

### Definition of disease severity

**Severe illness**

Adult patients meeting any of the following criteria:

- respiratory rate ≥ 30 breaths/min
- oxygen saturation ≤ 92% at a rest state
- arterial partial pressure of oxygen ($PaO_2$)/inspired oxygen fraction ($FiO_2$) ≤ 300

**Critical illness**

Adult patients meeting any of the following criteria:

Respiratory failure

- Occurence of severe respiratory failure ($PaO_2/FiO_2$ < 200), respiratory distress or acute respiratory distress syndrome (ARDS). This includes patients deteriorating despite advanced forms of respiratory support (NIV, HFNO) OR patients requiring mechanical ventilation

OR other signs of significant deterioration

- Hypotension or shock
- Impairment of consciousness
- Other organ failure

## MANAGING RISK OF INFECTION

As per the current national guidance on the use of personal protective equipment (PPE) in hospitals during the COVID-19 outbreak:

- follow contact and droplet precautions for routine patient care of people with suspected or confirmed COVID-19
- add contact and airborne precautions when aerosol-generating procedures are required.

**PP** [Taskforce/AHPPC]

## MONITORING AND MARKERS OF CLINICAL DETERIORATION

**Monitoring** — CONSENSUS RECOMMENDATION

For people with COVID-19, monitor markers of clinical progression, such as rapidly progressive respiratory failure and sepsis, especially on days 5 to 10 after onset of symptoms. **CBR** [Taskforce]

## HIGH-LEVEL AND ADVANCED RESPIRATORY SUPPORT

Refer to **RESPIRATORY SUPPORT FOR SEVERE TO CRITICAL COVID-19** Clinical Flowchart

Treatments

## DISEASE-MODIFYING TREATMENTS

**Corticosteroids** — RECOMMENDED

Use dexamethasone 6 mg daily intravenously or orally for up to 10 days (or acceptable alternative regimen) in **adults with COVID-19 who are receiving oxygen** (including mechanically ventilated patients). **EBR** [Taskforce]

The suggested regimen of corticosteroid use is 6 mg of dexamethasone (oral or intravenous) daily for up to 10 days. In patients for whom dexamethasone is not available, acceptable alternative regimens include: **EBR** [Taskforce]

- hydrocortisone: intravenous (50 mg), every 6 hours for up to 10 days
- prednisolone: oral (50 mg), daily for up to 10 days.

CONDITIONAL RECOMMENDATION AGAINST

Do not routinely use dexamethasone (or other corticosteroids) to treat COVID-19 in **adults who do not require oxygen**. **EBR** [Taskforce]

Corticosteroids may still be considered for other evidence-based indications in people who have COVID-19. **PP** [Taskforce]

**Remdesivir** — CONDITIONAL RECOMMENDATION FOR

Whenever possible remdesivir should be administered in the context of a randomised trial with appropriate ethical approval. Use of remdesivir for adults with moderate, severe or critical COVID-19 outside of a trial setting may be considered. **EBR** [Taskforce]

**Hydroxychloroquine** — NOT RECOMMENDED

Do not use hydroxychloroquine for the treatment of COVID-19. **EBR** [Taskforce]

**Disease-modifying treatments not recommended outside of clinical trials** — NOT RECOMMENDED

For people with COVID-19, do not use the following disease-modifying treatments outside of randomised trials with appropriate ethical approval **EBR** [Taskforce]:

- Aprepitant
- Azithromycin
- Baloxavir marboxil
- Calcifediol
- Chloroquine
- Colchicine
- Convalescent plasma
- Darunavir-cobicistat
- Favipiravir
- Human umbilical cord mesenchymal stem cells
- Immunoglobulin plus methylprednisolone
- Interferon β-1a
- Interferon β-1b
- Interferon gamma
- Lopinavir-ritonavir
- Ruxolitinib
- Sofosbuvir-daclatasvir
- Telmisartan
- Umifenovir
- Other disease-modifying treatments

Trials are needed in special populations, including children and adolescents, pregnant and breastfeeding women, older people living with frailty and those receiving palliative care. Until further evidence is available, do not use other disease-modifying treatments in these populations unless they are eligible to be enrolled in trials. **PP** [Taskforce]

## Shock

### ACUTE RESUSCITATION WITH FLUIDS

In adults with COVID-19 and shock, use dynamic parameters (skin temperature, capillary refilling time, and/or serum lactate measurement) rather than static parameters to assess fluid responsiveness. **PP** [Taskforce/SSC]

In all patients with severe to critical COVID-19, use a restrictive fluid management strategy, avoiding the use of 'maintenance' intravenous fluids, high-volume enteral nutrition, and fluid bolus for hypotension. **PP** [Taskforce/ANZICS]

For the acute resuscitation of adults with COVID-19 and shock, use buffered/balanced crystalloids rather than unbalanced crystalloids. **PP** [Taskforce/SSC]

For the acute resuscitation of adults with COVID-19 and shock, do not use synthetic colloids.
**PP** [Taskforce/SSC]

### USE OF VASOACTIVE AGENTS

In adults with COVID-19 and shock, use noradrenaline as the first-line vasoactive agent. If noradrenaline is not available, use either argipressin (vasopressin) or adrenaline as the first-line vasoactive agent. **PP** [Taskforce]

In adults with COVID-19 and shock, if a target mean arterial pressure (MAP) of 60-65 mmHg cannot be achieved by maximal doses of first-line monotherapy with a vasoactive agent, add a second vasoactive agent. **PP** [Taskforce]

### SUPPORTIVE ANTI-INFECTIOUS THERAPY

In people who are critically ill, request an influenza PCR test and consider prescribing oseltamivir 75 mg BD (or a renally adjusted dose). If the influenza PCR is negative, cease oseltamivir.
**PP** [Taskforce/ASID]

## Discharge planning

In patients with severe COVID-19 offer appropriate rehabilitation to optimise recovery, including early hospital rehabilitation. Plan transition of care to the community, including handover to general practice. **PP** [Taskforce]

**Sources**

**AHPPC** – Australian Health Protection Principal Committee (AHPPC). Guidance on the use of personal protective equipment (PPE) in hospitals during the COVID-19 outbreak. Updated 19 June 2020

**ANZICS** - The Australian and New Zealand Intensive Care Society (ANZICS) COVID-19 Guidelines. V1.0, 16 March 2020

**ASID** – Interim guidelines for the clinical management of COVID-19 in adults. Australasian Society for Infectious Diseases (ASID). VI.0, 20 March 2020

**SSC** – Surviving Sepsis Campaign: Guidelines on the Management of Critically Ill Adults with Coronavirus Disease 2019 (COVID-19)

**Taskforce** – Current guidance from the National COVID-19 Clinical Evidence Taskforce