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 — CONDITIONAL RECOMMENDATION AGAINST

Do not routinely offer therapeutic anticoagulant dosing in **adults with severe or critical COVID-19**. There is no additional indication for therapeutic dosing for anticoagulants in adults with severe or critical COVID-19 beyond current standard best practice. **EBR** [Taskforce]

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:

- use eye protection
- use P2/N95 respirators
- use other PPE as per NHMRC IPC recommendations

PP [Taskforce/ICEG; NHMRC]

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]

Definition of disease severity

Severe illness

Adult patients meeting any of the following criteria:

- respiratory rate ≥ 30 breaths/min
- SpO_2 < 92% at rest
- 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

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.

Remdesivir — CONDITIONAL RECOMMENDATION FOR

Consider using remdesivir for adults hospitalised with moderate to severe COVID-19 **who require oxygen but not ventilation**. **EBR** [Taskforce]

Casirivimab plus imdevimab (REGEN-COV)

Consider using casirivimab plus imdevimab **in seronegative patients hospitalised** with moderate to severe COVID-19. **EBR** [Taskforce]

OTHER IMMUNOMODULATING DRUGS

Consider using one of:

- Baracitinib

Consider using baracitinib for the treatment of COVID-19 in **adults who require supplemental oxygen**, particularly where there is evidence of systemic inflammation. **EBR** [Taskforce]

- Sarilumab

Consider using sarilumab for the treatment of COVID-19 in **adults who require high-flow oxygen, non-invasive ventilaton or invasive ventilation**. **EBR** [Taskforce]

- Tocilizumab

Consider using tocilizumab for the treatment of COVID-19 in **adults who require supplemental oxygen**, particularly where there is evidence of systemic inflammation. **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]:

- Angiotensin 2 receptor agonist (C21)
- Anakinra
- Aprepitant
- Baloxavir marboxil
- Bamlanivimab
- Bamlanivimab plus etesevimab
- Bromhexine hydrochloride
- Chloroquine
- Combined metabolic cofactor supplementation (CMCS)
- Comostat mesilate
- CT-P59 monoclonal antibody
- Darunavir-cobicistat
- Dutesteride
- Enisamium
- Favipiravir
- Fluvoxamine
- Human umbilical cord mesenchymal stem cells
- Immunoglobulin plus methylprednisolone
- Inhaled Interferon β-1a
- Interferon β-1b
- Interferon gamma
- Interferon-kappa + tff2
- Ivermectin
- Ivermectin plus doxycycline
- Intravenous Immunoglobulin
- Lenzilumab
- N-acetylcysteine
- Nitazoxanide
- Peginterferon lambda
- Recombinant human granulocyte colony-stimulating factor
- Ruxolitinib
- Sofosbuvir-daclatasvir
- Sulodexide
- Telmisartan
- Tofacitinib
- Triazavirin
- Umifenovir
- Vitamin C
- Vitamin D (calcifediol/ cholecalciferol)
- Zinc
- Other disease-modifying treatments

Treatments (cont.)

Corticosteroids — 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 AGAINST

Do not start remdesivir in adults hospitalised with COVID-19 who require ventilation.

However, remdesivir should be continued with the appropriate dose and duration, **if it was started prior to requiring ventilation** (invasive or non-invasive mechanical ventilation and extracorporeal membrane oxygenation (ECMO)). **PP** [Taskforce]

Aspirin
Azithromycin
Colchicine
Convalescent plasma
Hydroxychloroquine

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

NOT RECOMMENDED

Interferon β-1a
Hydroxychloroquine plus azithromycin
Interferon β-1a plus lopinavir-ritonavir
Lopinavir-ritonavir

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]

These disease-modifying treatments should still be considered for other evidence-based indications in people who have COVID-19. **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]

Other Treatments

OESTROGEN CONTAINING THERAPIES

Stop oral menopausal hormone therapy (MHT) in women with severe or critical COVID-19.

Before restarting oral MHT, review the indication for this and consider transitioning to a transdermal preparation. **PP** [Taskforce]

In women who are receiving care in hospital for severe or critical COVID-19 and who are taking oestrogen-containing contraception, manage these medications as per usual care. **PP** [Taskforce]

In women who stop or suspend contraception when they have COVID-19, restart contraception at the time of discharge or when acute symptoms have resolved. **PP** [Taskforce]

Follow up care

- Assist people to connect to a GP if they do not have one.
- When the acute phase of the illness has resolved, and the patient is mobile, undertake a comprehensive review to assess their ongoing and rehabilitation needs.
- Review medications that were stopped or started.

PP [Taskforce]

Sources

ANZICS – The Australian and New Zealand Intensive Care Society (ANZICS) COVID-19 Guidelines. V3.0, 20 October 2020. https://www.anzics.com.au/wp-content/uploads/2020/10/ANZICS-COVID-19-Guidelines_V3.pdf

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)

National COVID-19 Clinical Evidence Taskforce – Australian guidelines for the clinical care of people with COVID-19. https://app.magicapp.org/#/guideline/L4Q5An

National COVID-19 Clinical Evidence Taskforce/ICEG – Australian guidelines for SARS-CoV-2 infection prevention and control of COVID-19 in healthcare workers V1.0. https://app.magicapp.org/#/guideline/ERWdzj

NHRMC - Australian Guidelines for the Prevention and Control of Infection in Healthcare (2019) https://www.nhmrc.gov.au/about-us/publications/australian-guidelines-prevention-and-control-infection-healthcare-2019