**MANAGEMENT OF ADULTS WITH MODERATE TO SEVERE COVID-19**

### Setting of care

- **Admissions**
  - Manage people with moderate COVID-19 in hospital, when possible. **PP** [Taskforce]
  - Manage people with severe COVID-19 in hospital or another facility that can provide the necessary level of care. **PP** [Taskforce]
  - Consider admission of people with likely or confirmed COVID-19 if they are haemodynamically unstable, hypoxaemic (SaO2 on room air ≤ 92%), have comorbidities, or an unsuitable home environment. **PP** [Taskforce]

### Baseline testing and diagnostic work up

- In all people with suspected or confirmed COVID-19, perform haematology, biochemistry laboratory testing, a CXR and an ECG on admission. **PP** [Taskforce]
- Investigate people with suspected or confirmed COVID-19 for influenza, CAP and other differential diagnoses as per usual practice. **PP** [Taskforce]
- In cases of suspected COVID-19 that have not been confirmed by positive PCR, collect serum during the acute phase of the illness (preferably within the first 7 days of symptom onset); store and test the serum in parallel with convalescent sera collected 2 or more weeks after the onset of illness. **PP** [Taskforce/CDNA]
- In cases where a strong clinical suspicion of COVID-19 remains after a negative SARS-CoV-2 PCR: continue isolation and treatment as for a provisional COVID-19 diagnosis; repeat SARS-CoV-2 PCR as soon as possible, adding a stool PCR if loose stool. **PP** [Taskforce/ASID]

### Monitoring and markers of clinical deterioration

**Definition of disease severity**

- **Moderate illness**
  - Stable adult patient presenting with respiratory and/or systemic symptoms or signs. Able to maintain oxygen saturation above 92% (or above 90% for patients with chronic lung disease) with up to 4 L/min oxygen via nasal prongs.
  - Characteristics:
    - prostration, severe asthenia, fever > 38°C or persistent cough
    - clinical or radiological signs of lung involvement
    - no clinical or laboratory indicators of clinical severity or respiratory impairment

- **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 (PaO2)/inspired oxygen fraction (FiO2) ≤ 300

### Supportive anti-infectious therapy

- In people with suspected or confirmed COVID-19 who are hypoxaemic (SaO2 on room air ≤ 92%) or have pleural effusion or purulent sputum, prescribe antibiotics according to local pneumonia guidelines.
- If the onset of bacterial pneumonia symptoms occurs more than 72 hours after hospital admission, choose antibiotics according to local CAP guidelines.
- If the onset of bacterial pneumonia symptoms occurs within 72 hours of hospital admission, choose antibiotics according to local CAP guidelines.
- 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**
- If disease is severe, consider prescribing oseltamivir 75 mg BD (or a lower dose if renal function impaired). **PP** [Taskforce/ASID]
- Monitor for complications, such as acute liver injury, acute kidney injury, acute cardiac injury or shock. **PP** [Taskforce]
- Do not routinely perform CT scanning in people with suspected or confirmed COVID-19. **PP** [Taskforce]

### General

- In all people with suspected or confirmed COVID-19, anticipate complications such as arrhythmias, cardiac impairment, sepsis and multi-organ dysfunction, and address using existing standards of care. **PP** [Taskforce/ACEM]

### Corticosteroids

**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 corticosteroids 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.

**Evidence-Based 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**
- In people with moderate COVID-19, prescribe dexamethasone 6 mg daily intravenously or orally for up to 10 days. **EBR** [Taskforce]
- In people with severe COVID-19, prescribe dexamethasone 6 mg daily intravenously or orally for up to 10 days. **EBR** [Taskforce]
- In people with suspected or confirmed COVID-19, perform ECG and haematology and biochemistry laboratory tests as clinically indicated to monitor for complications, such as acute liver injury, acute kidney injury, acute cardiac injury or shock. **PP** [Taskforce]
- Do not routinely perform CT scanning in people with suspected or confirmed COVID-19. **PP** [Taskforce]
**Supportive care in hospital (cont.)**

**HOSPITALS WITHOUT ICU**

**RESPIRATORY SUPPORT**

In people with suspected or confirmed COVID-19 and a SaO₂ ≤ 92% or significantly below baseline, initiate supplemental oxygen (1-4 L/min) via nasal prongs. PP [Taskforce/ASID]

For details of high level respiratory support see the RESPIRATORY SUPPORT FOR SEVERE TO CRITICAL COVID-19 Clinical Flowchart

**OTHER TREATMENTS**

**VTE prophylaxis**

Use prophylactic doses of anticoagulants, preferably LMWH (e.g. enoxaparin 40 mg once daily or dalteparin 5000 IU once daily) in adults with moderate COVID-19 or other indications, unless there is a contraindication, such as risk for major bleeding. 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 20 mg once daily or dalteparin 2500 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. PP [Taskforce]

**Increased-dose VTE prophylaxis**

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 10⁹/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

For body weights outside 50-90 kg or heights outside 150-180 cm, calculate the BSA and multiply the eGFR by BSA/1.73. PP [Taskforce]

In all people with suspected or confirmed COVID-19, switch nebulisers to metered aerosols with spacers if possible. PP [Taskforce/ANZICS/ASID]

In people with suspected or confirmed COVID-19, consider alternative routes of administration for intranasal medicines, recognising that in some situations administration via the intranasal route may be a safer option for affected individuals and healthcare workers. PP [Taskforce/ASOG/ICS]

**Oestrogen containing therapies**

Consider stopping oral menopausal hormone therapy (MHT), also known as hormone replacement therapy (HRT), in women with mild or moderate COVID-19.

Before restarting oral MHT, review the indication for this. If MHT is continued, consider using a transdermal preparation. PP [Taskforce]

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 with mild or moderate COVID-19, manage oestrogen-containing contraception as per usual care. PP

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.

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

**FLUID MANAGEMENT**

In all patients with suspected or confirmed moderate to severe 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]

**HOSPITALS WITH ICU**

Urgently refer people with suspected or confirmed COVID-19 to intensive care if they are haemodynamically unstable, have rapidly worsening tachypnoea or hypoxaemia, or require ≥ 40% FiO₂ to maintain SaO₂ ≥ 92% (or acceptable saturations in those with lower baselines). PP [Taskforce/ASID]

**HOSPITALS WITHOUT ICU**

Consider the need for early transfer of people with suspected or confirmed COVID-19 to a higher-level facility with an ICU. PP [Taskforce/ASID]

When preparing for transfer of people with suspected or confirmed COVID-19, consider infection control implications and whether intubation is required prior to transfer, as per local retrieval team policies. PP [Taskforce/ASID]

**Remdesivir**

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]

**Corticosteroids**

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.

PP [Taskforce]

**Respiratory support**

In people with suspected or confirmed 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 details of high level respiratory support see the RESPIRATORY SUPPORT FOR SEVERE TO CRITICAL COVID-19 Clinical Flowchart

**Supportive care in hospital (cont.)**

**Remdesivir**

CONDITIONAL RECOMMENDATION FOR

Whenever possible remdesivir should be administered in the context of a randomised trial with appropriate ethical approval. Consider using remdesivir for adults hospitalised with COVID-19 who require oxygen but not ventilation. EBR [Taskforce]

**Azithromycin**

**Hydroxychloroquine**

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

**Disease-modifying treatments not recommended outside of clinical trials**

Do not use the following disease modifying treatments for the treatment of COVID-19 outside of randomised trials with appropriate ethical approval. EBR [Taskforce]

- Aprepitant
- Balsalazide
- Baricitinib
- Bronchexine hydrochloride
- Chloroquine
- Colchicine
- Combined metabolic cofactor supplementation (CMCS)
- Convalescent plasma
- Darunavir-cobicistat
- Dolutesteride
- Favipiravir
- Fluvoxamine
- Human umbilical cord mesenchymal stem cells
- Hydroxychloroquine plus azithromycin
- Immunoglobulin plus methylprednisolone
- Inhaled Interferon β-1a
- Interferon β-1b
- Interferon gamma
- Interferon-kappa + tif2
- N-acetylcysteine
- Peginterferon lambda
- Recombinant human granulocyte colony-stimulating factor
- REGN COV2
- Ruxolitinib
- Sofosbuvir-daclatasvir
- Telmisartan
- Tocilizumab
- Triazavirin
- Umifenovir
- Vitamin D (calcifediol/cholecalciferol)
- N-acetylcysteine
- Interferon β-1b
- Interferon gamma
- Interferon-kappa + tif2
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- Triazavirin
- Umifenovir
- Vitamin D (calcifediol/cholecalciferol)
- 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]

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

**Conclusions**

**Supportive care in hospital (cont.)**

**Remdesivir**

CONDITIONAL RECOMMENDATION AGAINST

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- Dolutesteride
- Favipiravir
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- Human umbilical cord mesenchymal stem cells
- Hydroxychloroquine plus azithromycin
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These disease-modifying treatments should still be considered for other evidence-based indications in people who have COVID-19. PP [Taskforce]
People with suspected or confirmed COVID-19 who are clinically ready for hospital discharge should stay in home isolation after discharge until:

- at least 14 days have passed since onset of symptoms; AND
- there has been resolution of fever and respiratory symptoms of the acute illness for the previous 72 hours. PP [Taskforce/CDNA]

People with suspected or confirmed COVID-19 with an incomplete resolution of symptoms but who are clinically ready for hospital discharge should stay in home isolation after discharge until:

- at least 14 days have passed since onset of symptoms; AND
- there has been substantial improvement in symptoms of the acute illness (including resolution of fever for the previous 72 hours); AND
- the person has had two consecutive respiratory specimens negative for SARS-CoV-2 by PCR taken at least 24 hours. PP [Taskforce/CDNA]

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]

- 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


ACSQHC – Australian Commission on Safety and Quality in Health Care. COVID-19 Position Statement - Managing fever associated with COVID-19 (Revised 29 April 2020); Managing intranasal administration of medicines for patients during COVID-19 (Revised 19 May 2020)

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


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