Clinical Management for Inpatients Guideline *

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1. Purpose

The purpose of this policy is to provide WACHS healthcare professionals with the latest evidence-based clinical guidelines for the management of inpatients with suspect or confirmed COVID-19. It focusses on the assessment, investigation and management of COVID-19, including available disease-modifying therapies. This document should be read in conjunction with the related documents as listed.

2. Guideline

General Information

National COVID-19 Clinical Evidence Taskforce "Living Guidelines" (1)

Best source of information and forms basis for much of this document.
https://covid19evidence.net.au

Incubation, Mode of Transmission and Progression of COVID 19

- The incubation period from time of exposure to developing symptoms may be up to 14 days (median 5-6 days) (2).
- The human-to-human mode of transmission likely occurs via respiratory droplets and airborne spread (2).
- The infectious period is likely to be whilst the patient is symptomatic and for at least 24 hours after symptoms are resolved. Patients may be infectious for 72 hours prior to symptom onset (2).
- Patients with COVID-19 can deteriorate quickly, typically days 5-10 since onset of symptoms (1). This needs to be factored into clinical assessment, decision making and safe discharge planning. To illustrate this point, in one study the median day of hospital admission was day 11, and median day of ICU admission was day 12 (3).

Clinical Presentation

- Overall varies from mild URTI to severe pneumonia/sepsis/ARDS (3).
- The most common symptoms are dry cough (67.8%), fever (43.8%), loss of sense of smell and taste (30-50%), shortness of breath (18.7%), myalgia/arthralgia (14.9%) and sore throat (13.9%) (4).
- Nasal congestion and gastrointestinal symptoms (nausea, vomiting and diarrhea) are uncommon, all at around 5%.
- Loss of appetite is very common from local experience

Admission Process, Triage & Disposition

Admissions from Emergency Department

When there is community transmission and patients are presenting to the Emergency Department (ED) with probable/confirmed COVID-19 they should be assessed according to local ED departmental practices/policies. COVID-19 should be considered in all patients with respiratory symptoms when community transmission is occurring. COVID-19 is likely to be the diagnosis when patients give a typical history compatible with COVID-19 (shortness of breath, dry cough, fevers, loss of sense of

smell/taste) and if done, a CXR showing bilateral infiltrates (without obvious alternate clinical diagnosis e.g. heart failure).

Once the diagnosis of COVID-19 is deemed likely**,** a severity assessment should be made to determine the need for admission (see table 1). All acute radiological investigations, if required, should be completed prior to leaving the ED to minimise movement of the infectious patient.

Expected Admissions (Home Quarantine/Home Monitoring/Ships)

If a probable/confirmed COVID-19 patient is expected they will be assessed in liaison with the receiving WACHS hospital team to decide disposition before arrival. The intention is to minimise number of staff exposed and to reduce time to receiving treatment. Ideally this will enable direct admission to the relevant area, without having to stop in the ED. Patients who are critical and require immediate intervention will go directly to ED unless there is a specific local protocol.

Transfers to Critical Care Site

Refer to the WA Country Health Service: Care of the critically ill patient during COVID-19 for escalation and patient transfer considerations.

In general, referral for transfer if requiring 4LNP to maintain SpO_2 >92% and the patient's goals of care make them an appropriate candidate for any of HFNP, CPAP, BiPAP or intubation. Suggested transfer sites are as listed in Table 1.

If a patient is not deemed appropriate for any of these interventions, then they can progress to receiving oxygen via Hudson mask/non-rebreather at the initial site as their ceiling of care. Earlier transfer may be considered depending on patient factors (e.g. RR, tempo of deterioration, number of days into illness, comorbidities, vaccination status etc.).

In some circumstances where there is capacity it may be appropriate for patients to receive advanced oxygen therapies (HFNP, NIV) in regional centres. These will likely be patients that are not for intubation but would accept HFNP/NIV or may request that they not be transferred. These cases will involve multi-disciplinary discussions resulting in patient centred individualised care.

Initial Severity Assessment & Disposition

Assess patients as for any infectious respiratory illness. Consider pre-morbid function, co-morbidities and trajectory of illness when deciding appropriate disposition. Key information includes:

- Days since first symptoms (helps predict trajectory, treatment eligibility etc.)
- Vaccination status
- VTE symptoms: Pleuritic pain, hemoptysis

The following criteria are a general guide only and apply to patient assessment at presentation. At all times holistic clinical assessment and clinician judgment is more important than prescriptive guidelines. These criteria are also incorporated into Summary of Initial Management, a flowchart summarizing the initial assessment and management of patients with COVID-19.

Table 1. Clinical criteria for severity assessment at presentation with suggested oxygen therapy and disposition (1).			
Severity	**Clinical Criteria**	**Oxygen Therapy**	**Suggested Disposition**
Mild	• No or mild signs or symptoms • No new shortness of breath or exertional dyspnoea • No evidence of lower respiratory tract involvement clinically or radiologically (if performed) • SpO_2 > 95% at rest • RR 10-25 breaths/minute • Heart rate 50-120bpm • GCS 15	Nil.	Discharge unless other care required i.e. needing hospital intervention to manage illness. Consider referral to WA COVID-19 Care at Home program if meets criteria.
Moderate	Stable patient with evidence of lower respiratory tract disease clinically or radiologically: • SpO_2 92-95% at rest • Desaturation or dyspnoea on mild exertion • RR 8-10 breaths/minute OR 25-30 breaths/minute • Heart rate 40-50bpm or 120-140bpm • GCS 15 • Evidence of lower respiratory tract disease on imaging	If needed for exertional desaturation: • 1-4 L/min O_2 via nasal prongs.	Admission under local General Medicine team. Consider COVID-19 therapeutics in consultation with the ID physician.
Severe	Signs of moderate disease but deteriorating or any of the following criteria • SpO_2 < 92% at rest • RR < 8 breaths/minute or > 30 breaths/minute • Heart rate <40bpm or >140bpm • GCS ≤14 • Lung infiltrates >50%	Consider 1st line: • 1-4 L/min O_2 via nasal prongs. Consider the following to stabilise patient and maintain SpO_2 >92%: • Titrate CPAP up to 10cm H_2O (12cm H_2O if BMI>30) and titrate FiO_2 • If hypercapnic consider BiPAP • See pages 9-10 for other modes of oxygen therapy	Local General Medicine Team admission if patient maintaining SpO_2>92% with 1-4L O_2 NP If requiring >1-4L O_2 NP to maintain SpO_2>92%: In SW, refer to Bunbury ICU. Other regions - ring APTC for transfer if within goals of patient care.
Critical	Any of the following: • Respiratory failure (any of) • Severe respiratory failure (PaO2/FiO2 <200)	As for severe, consider intubation.	In SW, refer to Bunbury ICU In other regions, ring APTC for

	• ARDS • Deterioration despite NIV or HFNO • Requiring mechanical ventilation • Hypotension or shock • Impaired consciousness • Other organ involvement		transfer if within goals of patient care.

Features Associated with Poor Outcomes

The following features (see Table 2) are associated with increased risk of in-hospital death. Please note, none of the criteria (Table 1) individually outweighs holistic clinical assessment as to the severity assigned to an individual patient and best management approach. Rather, these features should be used as markers to help shape an overall impression and assist in making informed decisions.

Table 2. Clinical, laboratory and imaging features associated with poor outcomes (3).

Clinical features	Laboratory features	Imaging features
RR >24 breaths/minute SpO2 <92%RA Increasing age Organ dysfunction (e.g. AKI) COPD Cardiovascular disease Cerebrovascular disease Diabetes Hypertension Immunocompromised state	Lymphopaenia <1.0 Neutrophil/lymphocyte ratio >3 CRP >40 D-dimer >1 LDH >245 Prothrombin time >16 Ferritin >300 Elevated troponin	ARDS

Investigations

Initial Investigations

The following laboratory tests are set up as an order set on iCM under:

Order sets → Inpatient → Respiratory → FS → COVID-19.

Table 3. Initial investigations for admitted patients with COVID-19 (3)

Laboratory	Patients requiring	Comments
FBC and film UEC LFTs CRP Procalcitonin*	All	Guide treatment decisions and monitor progress.
D-dimer Coagulation profile Troponin Glucose Iron studies CK	All	Less likely to contribute directly to management but can be used to prognosticate trajectory. Vitamin D to be replaced if low.

LDH Vitamin D		
ABG/VBG	Severe/critical or if clinical concerns for hypercapnia	
ECG	Moderate/severe/critical	Baseline and assess for changes suggestive of pulmonary embolism.
Microbiology	**Patients requiring**	**Comments**
COVID-19 PCR	All	
Respiratory viral PCR	All	
Blood culturesx2	Moderate/severe disease or features of sepsis	
Sputum culture	All if productive	
Urine MC+S	If features of sepsis	
Imaging	**Patients requiring**	**Comments**
CXR (mobile)	Routine CXR is not a screening tool for COVID-19	Should be requested as required

*If available locally

Case-by-case Investigations

Consider the following investigations on a case-by-case basis depending on the patient's individual risk factors:

- Quantiferon, hepatitis B and C serology (Risk of reactivation of latent disease with baricitinib/tocilizumab and prolonged illness)
- Strongyloides serology (Risk of hyperinfection with prolonged critical illness, steroids etc).

Smaller or Remote Sites

These sites may not have access to local imaging and pathology.

Patients with mild disease who will be cared for in the local community can often be managed clinically without a chest Xray or blood tests. The RACGP Home-care guidelines for patients with COVID-19 are useful in this circumstance.

In general, suggested investigations should be arranged on presentation, but initial management will be based by necessity on clinical assessment. The need to transfer to a larger centre in order to perform a chest Xray should be assessed on a case by case basis. Transfer to a larger centre should be arranged (if appropriate after determining the patient's ceiling of care) for patients with severe disease at presentation or elevated risk of severe disease

Summary of Initial Management

MILD

- Consider discharge with appropriate safety netting including home monitoring if eligible.
- Consider sotrovimab if eligible in consultation with ID physician as per state guidance on Formulary One / online
- Consider inhaled budesonide if eligible.

MODERATE

- 1-4LNP to maintain O_2 92-96%.
- Admission under general medical team to ward
- If O_2 therapy required:
  - Dexamethasone 6mg PO/IV for 10 days
  - Commence remdesivir and baricitinib if no contraindications in consultation with ID physician
- Phone consultation with metro ID/COVID-19 team as required

SEVERE

Obtain VBG/ABG. Consider:

- 1-4L NP to maintain O_2 at 92-96%. If insufficient refer to critical care/APTC and consider
  - Titrate CPAP up to 10cm H_2O (12cm H_2O if BMI>30) and titrate FiO_2
- If acute T2RF → NIV
- HFNP

- Dexamethasone 6mg PO/IV for 10 days
- In consultation with ID:
  - Commence baricitinib (see Disease Modifying Therapies)
  - Commence remdesivir if NOT ventilated (either mechanically or invasively)
- Restrictive fluid management
- Transfer to tertiary hospital / critical care site (see Table 1).
- Consider empirical antibiotic therapy*

CRITICAL

Consider early intubation. Stabilise patient and refer to ICU/APTC

- Dexamethasone PO/IV for 10 days
- Commence baricitinib (see Disease Modifying Therapies) in consultation with ID
- Restrictive fluid management
- Consider empirical antibiotic therapy*

* Concomitant bacterial infection is uncommon and routine antibiotic use is not encouraged.

Management of COVID-19

Goals of Care

Discussion and documentation of goals of care is recommended on admission for all COVID-19 admissions and if possible, should be done by experienced staff.

Please consider in discussion with patients and families:

- This is a prolonged respiratory illness with potential to deteriorate rapidly.
- Periods of intubation/non-invasive respiratory support can be prolonged; this has implications for subsequent respiratory and general recovery.
- Treatment involves significant immunosuppression, which has the potential to lead to late complications during prolonged admissions and rehabilitation.

Supplemental Oxygen and Respiratory Support

Oxygen targets:

- Aim SaO_2 92-96% if not at risk of hypercapnic respiratory failure.
- Aim SaO_2 88-92% if at risk of hypercapnic respiratory failure.

Refer to the WA Health COVID-19 Infection Prevention and Control in WA Healthcare Facilities for latest guidance on the use of appropriate infection prevention and control (IPC) precautions, including airborne precautions in the management of patients with confirmed or probable COVID-19.

All awake patients receiving oxygen and/or respiratory support should be educated on proning and should be encouraged/assisted to prone for as long as possible.

Stepwise use of the following oxygen delivery devices is recommended to maintain target saturations:

1. **1st Line**
   Low flow nasal prongs 1-4 L/min

- Liaise with critical care/respiratory if not sufficient to target oxygen saturations either locally or via APTC, with the aim to transfer if within patient's goals of care or in providing maximal support locally.

2. **2nd Line**
   Non-Invasive Ventilation: Continuous Positive Airway Pressure (CPAP)

- If available and tolerated, CPAP is preferred. Most patients will benefit from titration up to 10-12cm H2O with FiO2 0.4-0.6
- Used preferentially in respiratory failure due to COVID-19 but some inspiratory support i.e. BIPAP may be required if patients are tiring or hypercapnic (e.g. concomitant COPD)
- Titrate FiO2 to maintain target saturated

OR

High flow nasal prongs (HFNP)

- Consider the use of HFNP in patients who cannot tolerate CPAP, or it is unavailable locally
- Titrate flow rate up to 60L and FiO2 to maintain SpO2 within their target range
- If transporting patient, transition to Hudson mask/Non-Re-Breather mask

OR

Hudson mask/Non-Re-Breather Mask 5-15 L/min

- This should be considered in sites with no availability of increased respiratory support locally, or if the patient's goals of care are not for transfer and this device is more easily tolerated.

3. **3rd Line**
   Intubation and Mechanical Ventilation

- For those deteriorating/critical awaiting transfer to critical care/tertiary site
- In liaison with critical care/APTC, start with low tidal volumes (4-8mL/kg of estimated body weight), and use higher PEEP strategy (>10cm H2O)

Awake Proning

Awake proning is now standard practice for COVID-19 positive inpatients, see Appendix 1 for a bedside proning guide. The principle is to allow maximal lung inflation and avoid V/Q mismatch by helping patients avoid lying on their backs. This may help recruit collapsed alveoli and improve oxygenation.

Proning probably reduces the need for intubation and should be considered on a case-by-case basis for use at a minimum >3 hours per day (preferably >8hrs/day if tolerated) for all patients who meet the following criteria:

- Receiving any form of supplemental oxygen
- Can independently prone/unprone
- Can communicate and use call bell should they need assistance

Absolute contra-indications:

- Immediate need for intubation
- Haemodynamic instability
- Significantly altered conscious state
- Severe facial fractures, spinal fractures, non-fixed fractures

Relative contra-indications: (these patients will still benefit from tilting side to side)

- Significant frailty
- Behavioural difficulties
- Morbid obesity
- Recent abdominal surgery
- Pregnancy in 2nd and 3rd trimester

Disease Modifying Therapies

Pre-Hospital Treatment

There are several prehospital treatments for high risk outpatients with mild or asymptomatic disease that are approved for use in WACHS. It is likely that there will be severe supply limitations. The WACHS Chief Pharmacist will maintain a list of agents. The table below is not an exhaustive list and is expected to change. Please seek expert ID or pharmacy advice and refer to Formulary One, WA Health Model of Care for Sotrovimab, WA Health Guidelines for Use of COVID-19 Medicines document and to the National COVID-19 Clinical Evidence Taskforce guidelines.

Pre-hospital treatments for high risk outpatients with mild or asymptomatic disease include:

- Sotrovimab
- Nirmatrelvir-ritonavir (Paxlovid)
- Molnupirivir (Lagevrio)
- Budesonide dry powder inhaler

Refer to Table 4 for corresponding drug information and a summary of the current evidence

Inpatient Treatment

For those patients who do require admission, Table 4 is a general guide for when to commence treatment.

Current national guidelines recommend commencing all three of:

- Dexamethasone
- Remdesivir
- Baricitinib

“Triple therapy” should be commenced when the patient requires supplemental oxygen to maintain saturations ≥92% (except do not commence remdesivir if on NIV or intubated) (1).

In WA, remdesivir supply is currently restricted to severe/critically ill patients and requires ID approval. Note that dose modifications are required for baracitinib in patients with chronic kidney disease and it is contraindicated in patients with severe CKD, as is remdesivir (see Table 4).

If supply of baracitinib is limited, it should be prioritised for patients that are at high risk of severe disease and/or those who have raised inflammatory markers and are progressing despite dexamethasone and supplemental oxygen.

Most COVID-19 positive patients will not require inpatient treatment, and if suitable should be discharged and/or linked in to the WA COVID-19 Care at Home pathway (see Appendix 2).

Discussion with ID / COVID-19 consultant on call for the metro hospital linked to regional sites is recommended before use of these medications.

Table 4. Summary of disease modifying therapies for treatment of COVID-19.
This is current as of 2 March 2022, as adapted from the National COVID-19 Clinical Evidence Taskforce – Disease-modifying Treatments.
As new evidence becomes available the recommendations may change.

Medication	Indication	Contraindications	Precautions/ adverse effects	Dose and duration	Approvals	Summary of Evidence
PRE-HOSPITAL TREATMENTS						
Sotrovimab	Consider using within 5 days of symptom onset in adults who meet the eligibility criteria Refer to WA Health Model of Care for Sotrovimab	Hypersensitivity to active substance or any of the excipients e.g. histidine, sucrose, methionine, polysorbate, water for injection	Small risk of infusion reaction	Once off IV infusion of 500mg over 30 min	Refer to Statewide Medicines Formulary one for complete information	In one clinical trial, compared with placebo, sotrovimab reduces the risk of hospitalisation or death (RR 0.2) in patients with mild-to-moderate disease (5) Note: Individuals who had received one or more doses of SARS-CoV-2 vaccine were excluded from the trial. The efficacy of sotrovimab is unclear in partially or fully vaccinated individuals (1)
Lagevrio® (Molnupiravir)	Consider using within 5 days of symptom onset in unvaccinated adults who do not require oxygen supplementation and are at risk of disease progression	CI age<18 CI in pregnancy or risk of pregnancy (males also recommended to use effective contraception during treatment and for 3 months after)	GI upset	4 x 200mg (800mg) bd for 5 days	Refer to Statewide Medicines Formulary one for complete information	Less effective than paxlovid and sotrovimab (1) May decrease the incidence of hospitalisation or death (6) Note: Individuals who had received one or more doses of SARS-CoV-2 vaccine were excluded from the trial. The efficacy of molnupiravir is unclear in partially or fully vaccinated

						individuals and in immunocompromised patients (1) Only recommended if paxlovid or sotrovimab are unavailable or contraindicated (1)
Paxlovid® (Nirmatrelvir and ritonavir tablets)	Consider using within 5 days of symptom onset in unvaccinated adults who do not require oxygen supplementation and are at risk of disease progression	CI eGFR <30 and with severe hepatic impairment Multiple medication interactions (strong CYP3A inhibitor), seek pharmacy advice. Review interactions and Liverpool University Interactions Checker.	Dose reduction eGFR 30-59	2 x 150mg tablets (300mg) of nirmatrelvir with one tablet of ritonavir 100mg bd for 5 days eGFR 30-59: 150 mg nirmatrelvir (one tablet) with 100 mg ritonavir (one tablet), bd for 5 days	Refer to Statewide Medicines Formulary one for complete information	Reduces the risk of hospitalisation or death (RR 0.15 compared to placebo) (1) Nirmatrelvir must be taken together with ritonavir. Failure to correctly take in combination will result in plasma levels of nirmatrelvir that will be insufficient to achieve the desired therapeutic effect (1)
Budesonide	Consider using within 14 days of symptom onset in adults who do not require oxygen supplementation and are at risk of disease progression		Adrenal suppression in high doses Bronchospasm Oral candidiasis Vasculitis	400mcg inhaler 2 puffs bd for 14 days	Readily available	Less effective than paxlovid and sotrovimab. Compared to standard care, budesonide may improve time to recovery (RR 1.2) and may reduce risk of hospitalisation (RR 0.45) (1, 7)

INPATIENT TREATMENTS						
Dexamethasone	O_2 <92% on RA		Hyperglycaemia (Mood disturbance Risk of GI ulceration / bleeding Risk of reactivation of latent infection	6mg PO/IV OD for 10 days	None required	Reduces mortality in patients requiring oxygen (18% relative risk reduction vs placebo) (8). Greater benefit in invasively ventilated patients (36% relative risk reduction vs placebo) (8). No benefit in patients not requiring oxygen (4).
Remdesivir	Hospitalised non ventilated patients with O_2 <92% on RA	eGFR <30 ALT >5x ULN ALT 3x ULN with Bili >2xULN Significant cardiomyopathy NIV/intubated	Reversible AST/ALT elevation (9) Some reports of sinus bradycardia (9)	200mg IV loading dose on day 1, then 100mg IV daily for a total of 5 days	Refer to Statewide Medicines Formulary one for complete information	Shortens time to recovery from 15 days to 10 days, reduces length of hospitalisation by 5 days (vs placebo) (10). May prevent progression to more severe illness (10). No mortality benefit (trend toward but did not reach significance) (10).
Baricitinib	Hospitalised patients, O_2 <92% on RA, (safe/effective in mechanical ventilation and ECMO)	Other active severe infection/risk of reactivation of same. eGFR<15	Reactivation of latent infection Neutropaenia (avoid/interrupt if $<1x10^9$) (11) Lymphopaenia (avoid/interrupt if $<0.5^9$) (11) Anaemia (consider avoiding/interrupting if Hb<80 g/L*) (11)	4mg PO/NG OD If eGFR 30- 60 then 2mg OD If eGFR 15-30 then 1mg/day Avoid if eGFR<15 For 14 days or until discharge, whichever is first.	Refer to Statewide Medicines Formulary one for complete information	Reduces mortality (38.2% relative risk reduction vs placebo (12)), (35% relative risk reduction for baricitinib + remdesivir vs remdesivir alone (13)). Reduces time to recovery in patients on high flow oxygen or non-invasively ventilated (median 10 days for remdesivir + baricitinib vs 18 days for remdesivir alone (13)).

Sarilumab	Consider in hospitalised patients who require high-flow oxygen, non-invasive ventilation or invasive mechanical ventilation	Neutrophils $<2x10^9$ Platelets $<150x10^9$ ALT/AST >1.5x ULN Avoid in patients with active hepatic disease/impairment (14)	Increased risk of developing serious infections Neutropenia Injection site reactions Elevated liver transaminase Avoid in combination with baricitinib (14)	400mg IV single-dose, administered over 1 hour Use in combination with glucocorticoids	Available only through Special Access Scheme (SAS) approval Individual Patient Approval required from regional DTC	Reduces mortality versus standard care (moderate evidence RR 0.90) (1) Note: Use as an alternative to tocilizumab if not available/feasible
Tocilizumab	Recommended for patients requiring supplemental oxygen, particularly with elevated markers of systemic inflammation	Neutrophils $<0.5x10^9$ Platelets $<50x10^9$ ALT/AST >1.5x ULN Avoid in patients with active hepatic disease/ impairment Contraindicated in serious or untreated infection	Increased serum cholesterol Neutropenia Elevated liver enzymes GI perforation Reactivate inactive hepatitis B and laten Tb (15)	Dependent on body weight (16): > 90 kg: 800 mg 66–90 kg: 600 mg 41–65 kg: 400 mg ≤ 40 kg: 8 mg/kg IV single-dose Consider use in combination with glucocorticoids	N/A Due to critical national shortages the use of tocilizumab has been restricted to invasively ventilated patients and is not available in WACHS	Versus standard care, Tocilizumab (1,16): Reduces mortality (RR 0.87) Reduces need for invasive mechanical ventilations (RR 0.79) May decrease admission to ICU (RR 0.82) and may decrease hospital LOS Note: Baricitinib is being used as an alternative due to similar targeted pathways and is available in WACHS regional pharmacies.
*This value is taken from Australian Medicines Handbook and is suggested in use for non-COVID-19 indications (11). Given short duration of use in this context, consider risk benefit ration depending on individual patient. Transfusion and continuation is probably a reasonable strategy for most patients.						

Venous Thromboembolism Prophylaxis & risk

There is a high rate of Venous Thromboembolism (VTE) in COVID-19 patients. Consider the following in the prevention of VTE in COVID-19 patients:

- Unless contraindicated, all inpatients should be on prophylactic clexane 40mg once daily or 20mg once daily if Cr/CL <30.
- If there is a heparin allergy, then fondaparinux should be used.
- Avoid unfractionated heparin unless enoxaparin and fondaparinux unavailable

There should be a low threshold for treating pulmonary embolism empirically. Recently published evidence suggests therapeutic anticoagulation in non-selected hospitalised non-ICU COVID-19 patients results in increased survival to hospital and reduced use of ICU level supports (17). This is not currently recommended as standard practice (1) but should add weight to the decision to anticoagulate if there are concerns of pulmonary embolism and delays to organising diagnostic imaging.

If a CTPA is needed there must be a senior clinician to Radiologist/SMIT/CMIT discussion.

Antibacterial Therapy/Secondary Infections

Antibacterial therapy should NOT be routine for patients with COVID-19 pneumonitis. COVID-19 cough is typically dry/minimally productive, it is reasonable to add empirical antibiotics if there are other clinical concerns (e.g. lobar consolidation, deterioration at time not in keeping with trajectory of COVID-19). Procalcitonin levels may be useful to guide this decision if available locally.

If a decision is made to treat for community acquired/hospital acquired pneumonia then this should follow therapeutic guidelines recommendations regarding choice of agent, dosing and duration.

Consider opportunistic pathogens after prolonged admission with severe disease and immunosuppression. These pathogens include bacterial, reactivation of latent TB and invasive aspergillus.

Hyperglycaemia and Diabetes

Diabetes mellitus confers a higher risk of admission to an ICU and mortality from COVID-19 (18). There are several important considerations in relation to hyperglycaemia and diabetes in COVID-19. Refer to the COVID-19 Guidelines for Management of Diabetes and Hyperglycaemia available on the COVID-19 information for health professionals page for guidance on the management of hyperglycaemia in COVID-19 patients with/without pre-existing diabetes.

Consider the following to address hyperglycaemia driven by the inflammatory state, hyperglycaemia driven by steroid use as treatment (in previously known and non-diabetics) and management of diabetic medications in COVID-19.

- All patients with diabetes or hyperglycaemia, and all patients receiving dexamethasone should have Blood Glucose Level (BGL) monitoring QID (fasting, before meals and before bed) on initiation.
- If no pre-existing diabetes
  - If all levels <10.0mmol/L for first 48 hours, then reduce BGL monitoring to BD (pre-breakfast and pre-dinner) until dexamethasone finished or patient discharged.

Diabetic medication considerations:

- Metformin: Generally continue. Withhold if significant kidney injury due to risk of lactic acidosis. Withhold if severe COVID-19, vomiting or ketoacidosis.
- Sulfonylureas: Consider withholding, especially if poor oral intake or significant kidney injury due to risk of hypoglycaemia.
- SGLT2 inhibitors: Withhold due to risk of ketoacidosis while unwell.
- GLP-1 receptor agonists: Consider withholding as may worsen anorexia due to COVID-19. Withhold if severe COVID-19, AKI or CKD, vomiting or ketoacidosis.
- DPP-4 inhibitors: Generally continue.
- Insulin may need to be initiated, doses increased, and/or short acting insulin with meals added to long acting basal insulin regimes

Refer to the WA Health COVID-19 – Living with diabetes and other endocrine conditions document for patient information on managing their diabetes at home, including access to support services

Miscellaneous

- Avoid nebulisers where possible (aerosol generating procedure (AGP)). Metered dose inhalers with spacers are preferable and have been supplied in all WACHS pharmacies.
- Avoid unnecessary investigations/consider delaying until patient is not infectious. At the same time, balance these risks and ensure patients still receive the highest quality of care.
- Institute restrictive fluid management, especially in patients with severe disease. It is desirable to avoid positive fluid status when managing life threatening type 1 respiratory failure (keep patients on the dry side).

Ongoing investigations & monitoring

Table 5. Summary of "routine" investigations with guide for frequency according to severity.

Laboratory	Mild	Moderate	Severe
FBC	Not routine to repeat.	Every two days to monitor for complications of disease/therapy.	Daily to monitor for complications of disease/therapy.
UEC			
LFTs			
Imaging	**Mild**	**Moderate**	**Severe**
CXR	No repeat imaging unless clinical decline.	Repeat as needed if worsening respiratory status as for any respiratory illness.	

CT	Not routinely indicated.	Not routinely indicated. If unexplained decline in respiratory status despite CXR. May be used to assess for specific complications (e.g. CTPA for PE, secondary infection).

Transplant and Immunocompromised Patients

In general, these patients are at high risk of deterioration. WACHS teams should urgently liaise with the patient's usual treating team or their tertiary referral hospital COVID-19 team for advice.

A few general comments:

- Case definitions for COVID-19 are the same for immunocompetent or immunocompromised individuals.
- De-isolation criteria are not the same (see page 19).
- A broader differential diagnosis is more appropriate for respiratory symptoms and bilateral infiltrates in immunocompromised patients (e.g. PJP).
- There may be more rationale for empiric antibiotic cover.
- Regarding adjustment of regular immunosuppression:
  - Consider stress dosing for patients on long-term steroids (if dexamethasone 6mg/day is not adequate).
  - Cell cycle inhibitors (e.g. mycophenolate, azathioprine) should be:
- Dose reduced ~50% if mild disease
- Withheld if moderate/severe/critical
- Continue mTOR and calcineurin inhibitors unless other reason to withhold (e.g. AKI).
- Consider the side effect profiles of other associated medications and consider risk:benefit of withholding. Examples of typical medications to consider include:
  - Trimethoprim/sulfamethoxazole: Elevated creatinine/potassium and leukopaenia, may be problematic with more severe COVID-19.
  - Valganciclovir: Leukopaenia, may be problematic with more severe COVID-19

Management of the Deteriorating Patient

Escalation Criteria

- Standard clinical review and MET criteria apply to all patients with probable/confirmed COVID-19.
- There are additional criteria for considering discussion with a tertiary hospital/critical care site for possible transfer due to the high risk of deterioration, and the need to plan ahead due to the time involved in the logistics of transferring COVID-19 patients due to infection control practices.

Clinical Review Criteria

As a minimum inform medical staff responsible and consider clinical review for the following changes:

- New commencement of oxygen
- SpO2 <92% on air or on oxygen

- O2 flow rate ≥4L/min via Hudson mask

Criteria that should trigger consideration of tertiary/ICU transfer

As a general rule, discussion should occur when patients are for escalation of care to ICU level supports and any of the following occur:

- O2 flow rate ≥4L/min
- MET call
- Rapid deterioration in clinical trajectory
- Severely immunocompromised, including patients on dialysis, at risk of deterioration in discussion with usual treating team or receiving hospital COVID-19 team.

End of Life Care for Patients with COVID-19

Due to the potentially rapid progression of this illness it is important to identify patients progressing to this point in a timely manner to enable patient-centred palliative care. Due to the logistical difficulties for families, communicating this to patients and family/guardians/decision-makers as soon as practicable is important.

For patients whose goals of care are for ward-based management, it is important to recognise when to engage patients and support parties in discussion about considering a focus on symptom and comfort care. A timely transition to a palliative approach and a comfortable death when it is what patients and their decision-makers would prefer is a better outcome than uncontrolled symptoms of progressive respiratory failure.

Consider whether a transition to symptom and comfort care is appropriate if:

- Patient or medical treatment decision maker voice a preference for comfort measures rather than ongoing active management.

AND

- Despite active medical management the patient continues to deteriorate, which may be marked by the following:
  - Increasing O2 requirement
  - RR > 30bpm
  - Haemodynamic instability
  - Deteriorating conscious state
  - Not tolerating treatment due to agitation/distress

The WA Health – Clinical resources for End-of-Life and Palliative Care in the COVID-19 environment website has resources and clinical information related to care at the End of Life for COVID-19 patients.

De-isolation Procedures, Discharge from Hospital & Long-term Follow Up

De-isolation

De-isolating patients in a timely manner is an important component of effective resource utilisation.

Refer to Hospital discharge guidelines for information about clinical criteria for discharge, discharge planning and patient requirements (for discharge to home, hotel/private accommodation or residential facility) for COVID-19 suspect or confirmed patients.

Refer to the Communicable Disease Network Australia COVID-19 National Guidelines for Public Health Units and the WA Health release of cases from isolation – Information for clinicians for latest guidance on the release from isolation criteria for COVID-19 cases.

The procedure for de-isolating is as follows:

1. Patient meets criteria as below
2. Contact Infection Control team.
3. Infection prevention and control team confirm, liaising with Public Health (regional PHU or PHOPs)
4. Document in medical record and communicate to ward staff

Discharge from Hospital

Refer to the WA Health Hospital Discharge Guidelines for Suspect or Confirmed COVID-19 patient for the latest guidance on the specific criteria for the discharge of suspect or confirmed COVID-19 cases and the key considerations around clinical discharge planning.

Criteria for discharge from hospital are no different for patients with COVID-19 compared to any other patient. Additionally, consider (1) existing healthcare system capacity; (2) current epidemiological situation; and (3) availability of community support services. See table 6 for discharge pathways and the corresponding criteria for safe discharge to projected destination.

Table 6 outlines the different discharge pathways and the criteria for discharge to their respective destinations.

Table 6. Discharge pathways

Discharge destination	Criteria for discharge to destination	Transport arrangements
Home or other private accommodation	• Medically stable to receive care in private accommodation • Able to adhere to isolation directions • Caregivers are available as/if required • Access to a separate single bedroom with good ventilation and without sharing immediate space with others • Access to food and other necessities	Private vehicle with the patient wearing a clean surgical mask. If taxi or ride share is required, both patient and driver need to adhere to the DoH guidelines. Notify the driver in advance if the patient is either a suspect or confirmed COVID-19 case.

	• Access to recommended PPE for patient and household members • No household members at risk of complications from COVID-19 infection	
State run SHICC hotel	• Medically stable to receive care outside of hospital • Able to care for themselves independently • Under 'Centre Direction' for quarantine	For patients under 'Centre Direction' or 'Hospital Direction', inform the State Health Incident Coordination Centre of the discharge and organise transport by requesting for booking information at SHICC.covidoperations@health.wa.gov.au or ring 9222 2017 (24/7).
Residential facility	• Medically stable to receive care in facility • Residential facility has the facilities to enable patients to remain in isolation • Facility able to provide clinical and follow-up care • Facility is able to adhere to the recommended COVID-19 precautions as part of home care isolation	Standard hospital processes apply for patients requiring patient transport services. Notify the service provider in advance that the patient is either a suspect or confirmed COVID-19 case.

Follow up

There is increasing recognition of long-term complications of COVID-19, particularly respiratory and cardiac.

The following is a suggested framework for follow-up:

- Mild disease
  - GP follow-up at 4-6 weeks
  - Consider repeat CXR if CXR was done during admission and showed abnormalities
  - If ongoing symptoms/concerns then referral to outpatient services is warranted as per local referral pathways.
- Moderate-severe disease with COVID-19 pneumonitis
  - Repeat CXR at 4-6 weeks
  - General Medical outpatients review at 4-6 weeks
  - If significant cardiac abnormalities (e.g. persistent tachycardia or troponin elevation) discuss with general physician / cardiologist pre-discharge and consider referral to relevant cardiology clinic.

COVID-19 Care at Home

The WA COVID-19 Care at Home service delivers home monitoring care to COVID-19-positive patients via telehealth.

This free service is made available for patients who have an increased risk of requiring hospitalization (moderate-to-high risk) who may require additional support to be able to self-managed at home and within the community. Patients will receive calls from a dedicated health care team to check on their clinical symptoms, vital signs and welfare. Where feasible, they will also be provided a Pulse Oximeter to monitor their oxygen saturation.

Patients must be registered into an 'opt-in' model. Clinicians can assist in enrolling patients to the service based on their risk factors e.g. age, medical history, severity of symptoms or other concerns. Moderate-to-high risk adult patients are entered into the pathway based on their clinical severity as illustrated in Appendix B - COVID-19 Positive Patient Risk Stratification – Adults. They will be managed as per the Appendix B – COVID-19 Positive Patient Management Plan - Adults and Paediatrics.

Refer to Appendix B and the WA COVID-19 Care at Home webpage for more information.

3. Roles and Responsibilities

All Staff are required to work within policies and guidelines to make sure that WACHS is a safe, equitable and positive place to be.

4. Monitoring, compliance and evaluation

Monitoring

Monitoring of compliance with this guideline is to be conducted as required, with assessment of incidents relating to the management of an adult patient with suspect or confirmed COVID-19 infection.

Evaluation

Evaluation, audit and feedback processes are to be in place to monitor compliance.

Compliance

Failure to comply with this policy may constitute a breach of the WA Health Code of Conduct (Code). The Code is part of the Integrity Policy Framework issued pursuant to section 26 of the *Health Services Act 2016* and is binding on all WACHS staff which for this purpose includes trainees, students, volunteers, researchers, contractors for service (including all visiting health professionals and agency staff) and persons delivering training or education within WACHS.

WACHS staff are reminded that compliance with all policies is mandatory.

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6. Acknowledgements

COVID-19 Clinical Management Guideline for Inpatients, Fiona Stanley Hospital respiratory team.

7. Document summary:

Coverage:	E.g. WACHS-wide
Audience:	E.g. All Staff; Policy Developers, Executive Sponsors
Records Management	Non Clinical: Records Management Policy Clinical: Health Record Management Policy
Related Legislation:	Health Services Act 2016 (WA) Medicines and Poisons Act 2014 (WA) Medicines and Poisons Regulations 2016 (WA)
Related Mandatory Policies / Frameworks	WA Health COVID-19 Framework for System Alert and Response
Related WACHS Policy Documents	WACHS Goals of Patient Care Guideline WACHS COVID-19 Clinical and Non-clinical Management resources
Other Related Documents	WA Health COVID-19 Infection Prevention and Control in WA Healthcare Facilities WA Health Model of Care for Sotrovimab WA Health Guidelines for Use of COVID-19 Medicines WA Health release of cases from isolation – Information for clinicians WA Health – Hospital discharge guidelines for suspect or confirmed COVID-19 patient WA Country Health Service: Care of the critically ill patient during COVID-19
Related Forms	MR 5.C19 COVID-19 Screening Tool
Aboriginal Health Impact Statement Declaration (ISD)	This policy document does not stipulate the cultural or clinical needs of Aboriginal people
National Safety and Quality Health Service (NSQHS) Standards	National Safety and Quality Health Service Standards: Standard 1, Standard 3, Standard 4, Standard 5, Standard 6 and Standard 8.
Aged Care Quality Agency Accreditation Standards	Nil
National Standards for Mental Health	Nil

8. Document control:

Policy Owner:	Executive Director Clinical Excellence
Co-approver:	Executive Director Strategy & change
Contact:	Director of Medicine - WACHS
Business Unit:	WACHS Operations Centre
Version:	1.00
EDRMS #:	ED-CO-22-91574
Date Effective:	14 March 2022

This document can be made available in alternative formats on request.

Appendix A: Bedside Proning Guide in the Awake Dependent Patient

COVID-19 Ward Proning Bedside Guide

PROBABLE/CONFIRMED COVID-19

Rolling supine to prone through right side lying:

Step 1. Begin by tilting patient to their left and placing pillows under patient's right side.

Step 2. Place patient's right arm palm up under right buttock. Roll patient over pillows to their right using the slide sheet.


Supine-prone: **Step 1**


Supine-prone: **Step 2**


Supine-prone: **Step 4**

Step 3. Move the patient backwards in side-lying using the slide sheet to allow room on the bed to turn prone. Remove pillow from under patient's head.

Step 4. Place left arm up in swimmer's position and pull through 2 pillows to turn patient prone.

Step 5. Place memory foam cushion under patient's head. Tilt bed to reverse Trendelenburg position (head up).

Step 6. Leave patient prone in reach of call bell and phone.


Supine-prone: **Step 5**

Rolling prone to supine (un-proning) through right side lying:

Step 1. Place bed flat. Remove memory foam head cushion.

Step 2. Place patient's right arm palm up under right thigh. Using the slide sheet roll the patient onto their right side.

Step 3. Move the patient forwards in side-lying using the slide sheet to allow room on the bed to turn supine.

Step 4. Tuck slide sheet and top white sheet under patient so it may be removed once the patient is turned supine.

Step 5. Pull through 2 pillows to turn patient supine.

Step 6. Place standard pillow under patient's head. Remove slide sheet. Leave patient supine in reach of call bell and phone.


Prone-supine: **Step 5**

Patient Proning Information Leaflet

You have been given this handout because your healthcare team believe you will benefit from a 'proning' programme.

What is proning?

'Prone' is the technical name for lying on your front; 'Proning' is thetreatment of spending a prolonged time in this position.

Why should I lie prone?

When you lie on your back (supine), a lot of your lung tissue is squashed. When you lie on your front, most of your lung tissue is expanded. Lying on your front therefore encourages more air to reach all the areas of your lungs.

How should I lie prone?

The best way to lie comfortably prone is to use 3 or 4 pillows. One under your head, chest and hips, and one under your shins. Your healthcare staffwill help you adopt the position the first time if you need help getting comfortable. Make sure to have your call bell and phone handy in case youneed assistance while you are prone, and please let your nurse know you are going to lie prone.

How long should I lie prone for?

We would encourage you to spend as much time as possible lying on yourfront. Begin by adopting the position for a period of 30 minutes to 2 hours during the day. Any time you spend sleeping, would also be a good time totry to lie on your front.

If you can't lie prone for very long because it becomes uncomfortable, try not tospend a lot of time lying flat on your back. We recommend you either sit up in bed, sit out of bed, or lie on your side. You can use the same pillows tocomfortably lie on your side.

Prone Positioning

Side Lying Position

If you have any questions related to this advice, please ask any of your healthcare team members.

Appendix B – COVID-19 Care at Home Processes

COVID-19 Health Service Provider roles and responsibilities with WA COVID-19 Care at Home

Current as of 22 February 2022

		Escalation Pathway into the hospital setting	Discharge Pathway out of the hospital setting	
			Diagnosis upon discharge: COVID-Positive (Either <7 days since positive test result AND OR symptomatic)	**Diagnosis upon discharge: COVID-Negative (7-days post positive test result AND asymptomatic)**
COVID positive individual unknown to CC@H		Self-presentation to an ED → Hospital staff check COVID status and determines patient is NOT in CC@H	Clinical staff assesses the patient as high-risk and refers patient to CC@H → Patient self-registers for CC@H via Registration Portal / Clinical staff registers the patient for CC@H with their consent via Registration Portal	No action from clinical staff as the patient cannot be referred to CC@H as they are no longer COVID positive
CC@H patient	Individual presents direct to hospital setting (ED)	Self-presentation to an ED → Hospital staff check COVID status and determines patient IS in CC@H → Clinical staff notify CC@H that their patient has entered the hospital setting via escalations@covidcareathome.com.au	Clinical staff notify CC@H that the patient is returning to their service and provides a Discharge Summary via escalations@covidcareathome.com.au **CLINICAL CARE IS HANDED BACK TO CC@H**	Clinical staff notify CC@H that the patient is now COVID negative, is being discharged from the hospital setting and provides a Discharge Summary via escalations@covidcareathome.com.au **CLINICAL CARE IS HANDED BACK TO CC@H**
	CC@H determines a patient requires an URGENT escalation to a hospital setting (ED)	CC@H calls 000 and notifies PFCC/APTC and patient is escalated to ED ▪ CC@H sends ISOBAR via PFCC/APTC to confirmed HSP/hospital setting ▪ Hospital Clinician to call CC@H on 1800 466 338 if further clinical discussion is required	Clinical staff notify CC@H that the patient is returning to their service and provides a Discharge Summary via escalations@covidcareathome.com.au **CLINICAL CARE IS HANDED BACK TO CC@H**	Clinical staff notify CC@H that the patient is now COVID negative, is being discharged from the hospital setting and provides a Discharge Summary via escalations@covidcareathome.com.au **CLINICAL CARE IS HANDED BACK TO CC@H**
	CC@H determines a patient requires a NON-URGENT escalation to a hospital setting (aiming for direct ward admission)	Patient is admitted direct to ward where possible – coordinated between CC@H, PFCC/APTC and SJA ▪ CC@H sends ISOBAR via PFCC/APTC to confirmed HSP/hospital setting ▪ Hospital Clinician to call CC@H on 1800 466 338 if further clinical discussion is required	Clinical staff notify CC@H that the patient is returning to their service and provides a Discharge Summary via escalations@covidcareathome.com.au **CLINICAL CARE IS HANDED BACK TO CC@H**	Clinical staff notify CC@H that the patient is now COVID negative, is being discharged from the hospital setting and provides a Discharge Summary via escalations@covidcareathome.com.au **CLINICAL CARE IS HANDED BACK TO CC@H**
Individual determined to be COVID positive once in the hospital setting		Self-presentation to an ED → Patient is determined to be COVID positive via PCR or RAT / Clinical staff register the positive RAT test as per Notifiable Disease reporting requirements via COVID-19 testing (healthywa.wa.gov.au)	Clinical staff assesses the patient as high-risk and likely eligible for CC@H → Patient self-registers for CC@H via Registration Portal / Clinical staff registers the patient for CC@H with their consent via CC@H via Registration Portal → Clinical staff notify CC@H that the patient is discharging from the hospital setting and provides a Discharge Summary via escalations@covidcareathome.com.au **CLINICAL CARE IS HANDED TO CC@H**	No action from clinical staff as the patient cannot be referred to CC@H as they are no longer COVID positive

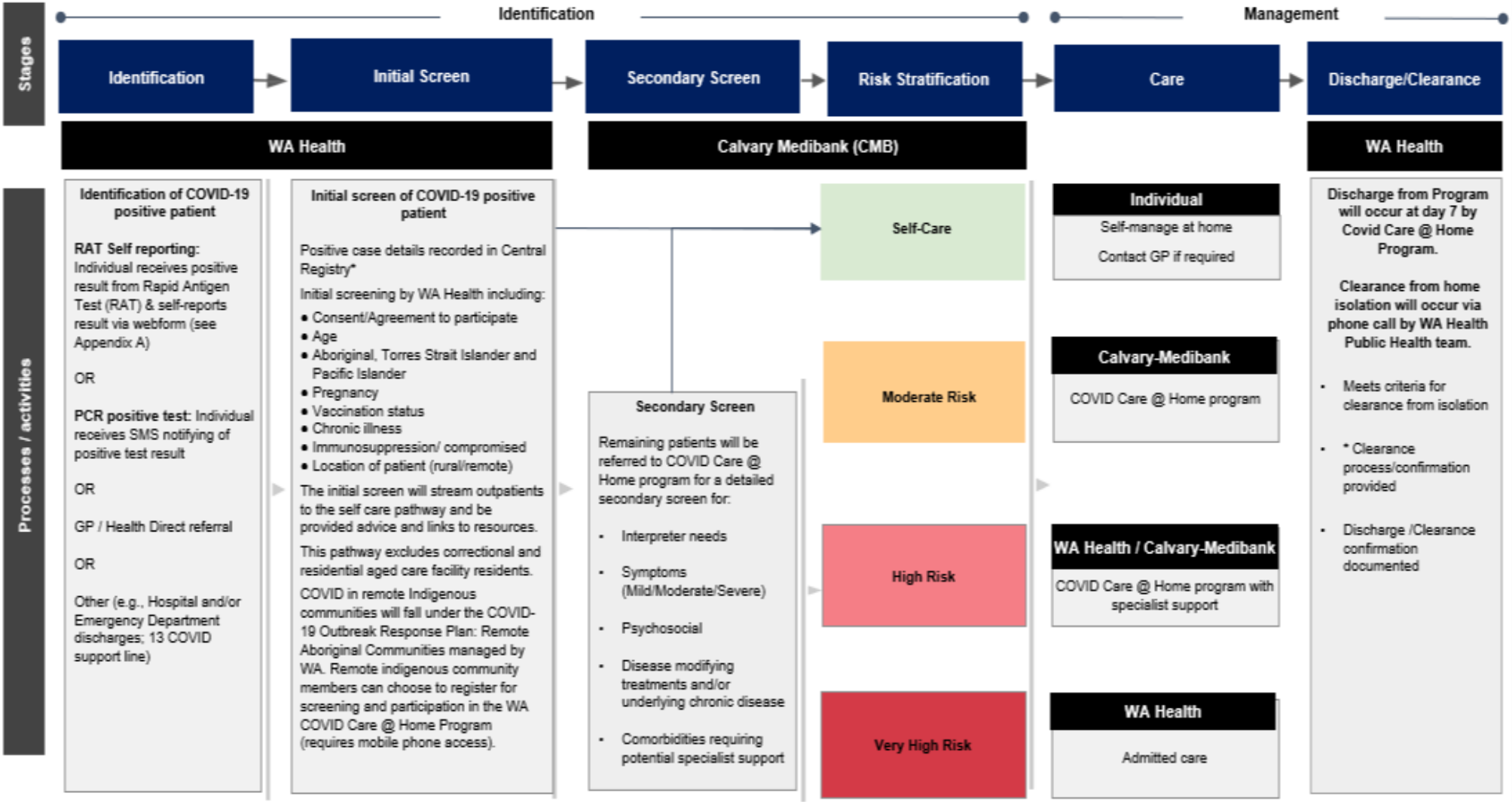
COVID-19 Positive Patient Clinical Assessment – Symptoms

Ongoing clinical review and management of COVID-19 patients will be guided by the symptom and sign classifications outlined below.

	Asymptomatic / Mild	Moderate	Severe
Adult symptoms and signs	Patient has no symptoms OR: • Mild cough or upper respiratory tract symptoms (incl. sore throat) • Nausea, loss of appetite, vomiting but tolerating fluids/food • Loss of smell/taste • Headache, body ache	• Persistent fever >39℃ • Marked cough • Haemoptysis • Mild breathlessness • Mild chest pain • Diarrhoea • Abdominal pain • Vomiting • Reduced fluid intake but >50% normal • Dizziness on standing up	• Shortness of breath / difficulty breathing • Confused or drowsy • Unable to stand • Fluid intake <50% normal • Chest pain lasting >10 mins • Pale, clammy, mottled skin
Child symptoms and signs	Patient has no symptoms OR: • Mild upper respiratory tract infection or cough • Mildly reduced fluid/oral intake • Mild vomiting or diarrhoea • Mild headache, body aches, fatigue	• Persistent fever >39℃ and not responding to treatment • Mild breathlessness • Coughing up blood • Reduced fluid intake, but >50% normal over last 24 hours • Reduced urine output but >50% normal over last 24 hours • Moderate vomiting and/or diarrhea • Unable to stand or walk	• Moderate to severe breathlessness / difficulty breathing • Severely reduced fluid intake (<50% normal over last 24 hours) • Severely reduced urine output (<50% normal over last 24 hours) • Reduced level of consciousness (including drowsiness, confusion, floppiness), seizures • Age under 1 month (corrected) with temperature over 38℃ • Any other severe symptom

COVID-19 Positive Patient Pathway

Current as of 3 March 2022.



COVID-19 Positive Patient Risk Stratification – Adults

COVID-19 Positive Patients		Risk Category		
		Self-Care	**Moderate**	**High**
Conditions		Requires age AND comorbidities criteria to be met	Requires ONE of age OR comorbidities OR pregnancy criteria to be met	Requires one of age OR comorbidities to be met
Criteria*	**Age and vaccination status**	16-64 years old AND any vaccination status Aboriginal, Torres Strait Islander and Pacific Islander: 16-49 years old AND any vaccination status	65-79 years old AND any vaccination status Aboriginal, Torres Strait Islander and Pacific Islander: 50-64 years old AND any vaccination status	80 years old or above AND any vaccination status Aboriginal, Torres Strait Islander and Pacific Islander: 65 years old or above AND any vaccination status.
	Comorbidities	None or stable comorbidities	Complex comorbidities present: • Chronic lung disease (severe asthma, cystic fibrosis, bronchiectasis, COPD) • Chronic heart failure (NYHA I-II) • Chronic end stage kidney (eGFR<30) or liver disease • Patients requiring assistance with breathing (CPAP, BiPAP, home oxygen) • Unstable diabetes including those on insulin • BMI >35 • Immunosuppression	High risk comorbidities present • Active cancer/ significantly immunosuppressed • Organ transplant recipient including bone marrow transplant • Dialysis • End-stage COPD/CHF
	Pregnancy Status	<28 weeks AND fully vaccinated OR <12 weeks AND unvaccinated	>28 weeks AND fully vaccinated OR >12 weeks AND unvaccinated	Any
Plan		**Self-Care**	**COVID-19 Care @ Home Program with specialist support**	**COVID-19 Care @ Home Program with specialist support**

*According to the jurisdictional vaccination program
** Risk stratification is based on risk factors; symptoms are used to determine appropriate level of care for each patient
# Patients managed by specialist clinicians can 'opt-out' of this model

COVID-19 Positive Patient Risk Stratification – Paediatric

COVID-19 Positive Patients		Risk Category		
		Self-Care	**Moderate**	**High**
Conditions		Requires age AND comorbidities criteria to be met	Requires ONE of comorbidities OR pregnancy criteria to be met	Requires agreed comorbidities to be met
Criteria**	**Age and vaccination status**	< 16 years old AND any vaccination status	< 16 years old AND any vaccination status	< 16 years old AND any vaccination status
	Comorbidities	None or stable comorbidities	Complex comorbidities present: Chronic lung disease (unstable asthma, cystic fibrosis) Congenital heart disease or other heart conditions Diabetes Significant disability BMI > 99th percentile Palliative care	High risk comorbidities present Active cancer/ significantly immunosuppressed Organ transplant recipient including bone marrow transplant Dialysis Under 4 weeks of aged (corrected) Home respiratory support – (oxygen, CPAP, BiPAP) or tracheostomy Downs Syndrome
	Pregnancy Status	<28 weeks AND fully vaccinated OR <12 weeks AND unvaccinated	Pregnancy at any stage & any vaccination status	Any
Plan		**Self-Care**	**COVID-19 Care @ Home Program with specialist support**	**COVID-19 Care @ Home Program with specialist support**

** Risk stratification is based on risk factors; symptoms are used to determine appropriate level of care for each patient

Patients managed by specialist clinicians can 'opt-out' of this model

COVID-19 Positive Patient Management Plan - Adults and Paediatrics

Plan	Self-Care Pathway	Moderate Risk Pathway	High Risk Pathway
Care Type	Self-Care	COVID-19 Care @ Home Program (including specialist support for <16)	COVID-19 Care @ Home Program with specialist support
Care Provider	N/A	Calvary-Medibank	Calvary-Medibank – with WA Health specialist support
Frequency of Contact*	N/A	Second daily and above, as clinically indicated	Daily and above, as clinically indicated
Care Modalities	N/A	Clinician / Non-clinician / Digital	Clinician / Digital
Additional Support/ Monitoring	Webpage/ fact sheets	Webpage / Fact sheets Oximeter (12 years and above) Monitored remotely with alert graded response Aboriginal, Torres Strait Islander and Pacific Islander culturally safe services if required	Webpage / fact sheets Oximeter (12 years and above) Monitored remotely with alert graded response Aboriginal, Torres Strait Islander and Pacific Islander culturally safe services if required
Escalation / De-escalation of Care	Individual to contact GP 000 if emergency for hospital assessment / admission (including jurisdictional symptom/sign advice/guidelines)	COVID-19 community management team inbound line 000 if emergency for hospital assessment / admission	COVID-19 community management team inbound line OR High risk patient single point of contact within WA Health 000 if emergency for hospital assessment / admission
		Remote patients: Consider proactive escalation for those patients who require an internal medical review based on symptoms. If concerned, discuss need to relocate with APTC	
De-isolation	Self-clear/ de-isolate under direction from WA Health SMS	Discharge by community COVID-19 management team under direction from WA Health	Discharge by community COVID-19 management team under direction from WA Health

Appendix C – Disease Modifying Drugs available in WA

The table below is current as of 2 March 2022. Contact the respective regional Chief Pharmacist for more information regarding availability.

Medication Name	Form	Strength	Where is stock located	Access Approval
National Stockpile Medicines				
Lagevrio® (Molnupiravir)	Oral	200mg	National Medicines Stockpile (In WA) • Pre-positioned: BrH, HHC, KarH, GH, KH, NoH, NaH, BuH, AH (and MPS sites and ACCHOs)	Only available through the National Medicines Stockpile Access through central approval pathway
Paxlovid® (Nirmatrelvir and ritonivir tablets)	Oral	150mg/100mg	National Medicines Stockpile (In WA) • Pre-positioned: BrH, HHC, KarH, GH, KH, NoH, NaH, BuH, AH (and ACCHOs)	Only available through the National Medicines Stockpile Access through central approval pathway
Remdesivir	IV	100mg	National Medicines Stockpile (In WA)	Only available through the National Medicines Stockpile Access through central approval pathway
Sotrovimab	IV	500mg/8mL	National Medicines Stockpile (In WA)	Only available through the National Medicines Stockpile Access through central approval pathway
Other Medicines				
Baracitinib	Oral	2mg, 4mg	Available at all RRCs (inc. Northam and Narrogin, Karratha and Carnarvon) Stock also in WA Health Critical Medicines reserve in the event of temporary supply issues.	Streamlined IPA via regional DTC
Budesonide	Inhaler	400 microg	At all WACHS Emergency Departments Stock also in WA Health Critical Medicines reserve in the event of temporary supply issues.	Unrestricted per State Medicines Formulary (Formulary One)
Dexamethasone	Oral / IV	4mg, 8mg	At all WACHS Emergency Departments	Unrestricted per State Medicines Formulary (Formulary One)
Sarilumab	IV	200mg	No stock currently in Australia Available via the Special Access Scheme (SAS)	Requires SAS approval Streamlined IPA via regional DTC
Tocilizumab	IV	80, 200, 400mg	N/A	N/A - Severe global shortage therefore not to be used for WACHS COVID-19 treatment