

DRUG TREATMENTS FOR CHILDREN AND ADOLESCENTS WITH COVID-19



This flowchart applies to **children and adolescents up to 16 years of age**. Depending on physical size and/or developmental status, either paediatric or adult guidance can be applied.

Where appropriate, based on age or physical size, refer to the flowchart on **DRUG TREATMENTS FOR ADULTS WITH COVID-19**

	Mild	Moderate	Severe	Critical
DEFINITION OF DISEASE SEVERITY*	<p>Not requiring oxygen</p> <p>Respiratory/vital signs</p> <ul style="list-style-type: none"> No or mild upper respiratory tract symptoms No or mild work of breathing <p>Feeding/hydration/conscious state</p> <ul style="list-style-type: none"> Normal or mildly reduced feeding 	<p>Not requiring oxygen</p> <p>Respiratory/vital signs</p> <ul style="list-style-type: none"> Moderate work of breathing Abnormal vital signs for age (tachycardia, tachypnoea) but does not persistently breach Early Warning (e.g. Medical Emergency Team) Criteria ** Brief self-resolving apnoea (infants) <p>Feeding/hydration/conscious state</p> <ul style="list-style-type: none"> Poor feeding, unable to maintain hydration without nasogastric or IV fluids, and Normal conscious state 	<p>Requiring oxygen but not invasive mechanical ventilation</p> <p>Respiratory/vital signs</p> <ul style="list-style-type: none"> Moderate-severe work of breathing Abnormal vital signs for age (tachycardia, tachypnoea) with breaches of Early Warning (e.g. Medical Emergency Team) Criteria Apnoea needing support/stimulation (infants) <p>Feeding/hydration/conscious state</p> <ul style="list-style-type: none"> Poor feeding, unable to maintain hydration without nasogastric or IV fluids Drowsy/tired but easily rousable 	<p>Requiring invasive mechanical ventilation</p> <p>Respiratory/vital signs</p> <ul style="list-style-type: none"> Unable to maintain breathing or prevent apnoea without advanced modes of support Abnormal vital signs for age with persistent breaches of Early Warning (e.g. Medical Emergency Team) Criteria Haemodynamically unstable without inotropic or vasopressor support Other organ failure <p>Feeding/hydration/conscious state</p> <ul style="list-style-type: none"> Poor feeding, unable to maintain hydration without nasogastric or IV fluids Altered conscious state/unconscious
CONDITIONAL RECOMMENDATION FOR	<p>Consider using inhaled corticosteroids (budesonide or ciclesonide) within 14 days of symptom onset for the treatment of symptomatic COVID-19 in children and adolescents who do not require oxygen and who have one or more risk factors[^] for disease progression.[#]</p>		<p>Consider using dexamethasone daily intravenously or orally for up to 10 days (or acceptable alternative regimen) in children and adolescents with acute COVID-19 who require oxygen (including mechanically ventilated patients).</p> <p>Consider using one of the following:</p> <p>Consider using tocilizumab for the treatment of COVID-19 in children and adolescents who require supplemental oxygen, particularly where there is evidence of systemic inflammation.[#]</p>	
CONSENSUS RECOMMENDATION FOR	<p>Consider using, in exceptional circumstances, remdesivir for the treatment of COVID-19 within 7 days of symptom onset in children and adolescents aged 12 years and over and weighing at least 40 kg who do not require oxygen and who are at high risk[^] of deterioration.[#]</p> <p>Consider using remdesivir only in children and adolescents who are not up-to-date with vaccination, or those who are immunosuppressed regardless of vaccination status. Do not routinely use remdesivir in children and adolescents who are up-to-date with vaccination unless immunosuppressed.</p> <p>Decisions about the appropriateness of treatment with remdesivir should be based on the patient's individual risk of severe disease, on the basis of age or multiple risk factors, and COVID-19 vaccination status.</p> <p>Consider using one of the following:</p> <p>Consider using, in exceptional circumstances, nirmatrelvir plus ritonavir (Paxlovid)^{^^} for the treatment of COVID-19 within 5 days of symptom onset in children and adolescents aged 12 years and over and weighing at least 40 kg who do not require oxygen and who are at high risk[^] of deterioration.[#]</p> <p>Consider using nirmatrelvir plus ritonavir only in children and adolescents who are not up-to-date with vaccination, or those who are immunosuppressed regardless of vaccination status. Do not routinely use nirmatrelvir plus ritonavir in children and adolescents who are up-to-date with vaccination unless immunosuppressed.</p> <p>Decisions about the appropriateness of treatment with nirmatrelvir plus ritonavir should be based on the patient's individual risk of severe disease, on the basis of age or multiple risk factors, COVID-19 vaccination status and with appropriate informed consent.</p>		<p>Consider using baricitinib for the treatment of COVID-19 in children and adolescents who require non-invasive or invasive ventilation.</p>	
	<p>Consider using, in exceptional circumstances, tixagevimab plus cilgavimab (Evusheld) for the treatment of COVID-19 within 5 days of symptom onset in children and adolescents aged 12 years and over and weighing at least 40 kg who do not require oxygen and who are at high risk[^] of deterioration.[#]</p> <p>Consider using tixagevimab plus cilgavimab only in children and adolescents who are not up-to-date with vaccination, or those who are immunosuppressed regardless of vaccination status. Do not routinely use tixagevimab plus cilgavimab in children and adolescents who are up-to-date with vaccination unless immunosuppressed.</p> <p>Decisions about the appropriateness of treatment with tixagevimab plus cilgavimab should be based on the patient's individual risk of severe disease, on the basis of age or multiple risk factors, and COVID-19 vaccination status.</p>			

	Not requiring oxygen	Not requiring oxygen	Requiring oxygen but not invasive mechanical ventilation	Requiring invasive mechanical ventilation	
CONSENSUS RECOMMENDATION FOR	<p>Consider using, in exceptional circumstances, sotrovimab for the treatment of COVID-19 within 5 days of symptom onset in children and adolescents aged 12 years and over and weighing at least 40 kg who do not require oxygen and who are at high risk[^] of deterioration.^{##}</p> <p>Where infection with Omicron BA.2 is confirmed or considered likely, use of sotrovimab should only be considered where other treatments are not suitable or available.^{***}</p> <p>Consider using sotrovimab only in children and adolescents who are not up-to-date with vaccination, or those who are immunosuppressed regardless of vaccination status. Do not routinely use sotrovimab in children and adolescents who are up-to-date with vaccination unless immunosuppressed.</p> <p>Decisions about the appropriateness of treatment with sotrovimab should be based on the patient's individual risk of severe disease, on the basis of age or multiple risk factors, and COVID-19 vaccination status.</p>				
	<p>Consider using, in exceptional circumstances, casirivimab plus imdevimab (Ronapreve) within 7 days of symptom onset in children and adolescents with COVID-19 aged 12 years and over and weighing at least 40 kg who do not require oxygen and are at high risk[^] of deterioration.^{###}</p>		<p>Consider using, in exceptional circumstances, casirivimab plus imdevimab (Ronapreve) in seronegative children and adolescents with COVID-19 aged 12 years and over and weighing at least 40 kg who require oxygen and are at high risk[^] of disease progression.^{###}</p>		
CONDITIONAL RECOMMENDATION AGAINST	<p>DO NOT routinely use dexamethasone (or other oral or parenteral steroids) to treat COVID-19 in children and adolescents who do not require oxygen.</p>		<p>DO NOT routinely use remdesivir for the treatment of COVID-19 in children and adolescents who require oxygen.</p>		
	<p>DO NOT use the following for the treatment of COVID-19:</p> <ul style="list-style-type: none"> • aspirin • azithromycin • colchicine • convalescent plasma • hydroxychloroquine • hydroxychloroquine plus azithromycin • interferon β-1a • interferon β-1a plus lopinavir-ritonavir • ivermectin • lopinavir-ritonavir 				
NOT RECOMMENDED	<p>DO NOT use casirivimab plus imdevimab (Ronapreve) in seropositive children and adolescents hospitalised with moderate to critical COVID-19.</p>				
	<p>DO NOT use remdesivir for the treatment of COVID-19 in children under 12 years of age outside of randomised trials with appropriate ethical approval.</p>				
ONLY IN RESEARCH	<p>DO NOT use nirmatrelvir plus ritonavir (Paxlovid) for the treatment of COVID-19 in children under 12 years of age without risk factors[^] for deterioration who do not require oxygen, outside of randomised trials with appropriate ethical approval.</p>				
	<p>DO NOT routinely use sotrovimab outside of randomised trials with appropriate ethical approval for the treatment of COVID-19 in children and adolescents under 12 years of age and without risk factors[^] for deterioration.</p> <p>Where infection with Omicron BA.2 is confirmed or considered likely, use of sotrovimab should only be considered where other treatments are not suitable or available.^{***}</p>				
	<p>DO NOT use tixagevimab plus cilgavimab (Evusheld) for the treatment of COVID-19 in children under 12 years of age without risk factors[^] for deterioration who do not require oxygen outside of randomised trials with appropriate ethical approval.</p>				
	<p>DO NOT use casirivimab plus imdevimab (Ronapreve) in children under 12 years of age without risk factors[^] for deterioration who have mild or asymptomatic COVID-19 outside of randomised trials with appropriate ethical approval.</p>				
	<p>Do not use the following for the treatment of COVID-19 outside of randomised trials with appropriate ethical approval:</p> <ul style="list-style-type: none"> • anakinra • angiotensin 2 receptor agonist C21 • aprepitant • baloxavir marboxil • bamlanivimab • bamlanivimab plus etesevimab • bromhexine hydrochloride • camostat mesilate • chloroquine • combined metabolic activators (CMA) • darunavir-cobicistat • doxycycline • dutasteride • enisamium • favipiravir • fluvoxamine • human umbilical cord mesenchymal stem cells • immunoglobulin • immunoglobulin plus methylprednisone • inhaled interferon β-1a • interferon β-1b • interferon gamma • interferon kappa plus trefoil factor 2 (IFN-K plus TFF2) • ivermectin plus doxycycline • lenzilumab • molnupiravir (Lagevrio) • N-acetylcysteine • nitazoxanide • peginterferon lambda • recombinant human granulocyte colony-stimulating factor (rhG-CSF) • regdanvimab • ruxolitinib • sarilumab • sofosbuvir-daclatasvir • sulodexide • telmisartan • tofacitinib • triazavirin • umifenovir • vitamin C • vitamin D analogues (calcifediol / cholecalciferol) • zinc • other disease-modifying treatments 				

^RISK FACTORS FOR DISEASE PROGRESSION	Not requiring oxygen	Not requiring oxygen	Requiring oxygen but not invasive mechanical ventilation	Requiring invasive mechanical ventilation
	<p>Risk factors for disease progression</p> <p>Based on international cohort studies (Children with SARS-CoV-2 in the National COVID Cohort Collaborative [N3C]), risk factors for deterioration / disease progression include:</p> <ul style="list-style-type: none"> • paediatric complex chronic conditions (PCCC): congenital and genetic, cardiovascular, gastrointestinal, malignancies, metabolic, neuromuscular, renal and respiratory conditions • severe asthma (for example, in the past 12 months ≥ 1 exacerbation requiring ICU admission or IV treatment, OR ≥ 2 hospital admissions for asthma; children requiring biologic therapy for symptoms) • obesity (above the 95th percentile on BMI for age growth chart) 			

Source
[National COVID-19 Clinical Evidence Taskforce](#) – Australian guidelines for the clinical care of people with COVID-19.

Note: This flowchart does not apply to children and adolescents on home oxygen due to pre-existing conditions. Use clinical judgement in these cases. Refer to the Australian guidelines for the clinical care of people with COVID-19 for guidance on the use of **pulse oximetry** in children and adolescents.

* These disease severity definitions are intended to be a guide for clinicians and disease severity assessment should also take into account individual patient factors with appropriate assessment by trained clinicians. Cardiorespiratory and vital parameters must be considered within the normal age-appropriate ranges for neonates and children. If criteria fall across different severity classifications, use the more severe classification to manage illness. Comorbidities (e.g. preterm infants, oncology, immunosuppressed, etc.) may increase the risk of more severe disease.

** Temperature instability should be considered an abnormal vital sign in infants. Fever is common in children and does not contribute to determination of illness severity in isolation.

Not approved for use by TGA for this indication.

^^ Check for common, serious drug-drug interactions before prescribing and administering nirmatrelvir plus ritonavir (Paxlovid) with other medications.

*** Where infection with Omicron BA.2 is confirmed or considered likely, use of sotrovimab in children and adolescents should only be considered where other treatments are not suitable or available. There are limited evidence-based alternatives for children and adolescents currently (e.g. inhaled corticosteroids). While the clinical evidence supports use of sotrovimab to treat mild COVID-19 (in adults at high risk of severe disease), there is no clinical evidence to evaluate its effectiveness against the Omicron variant or BA.1 or BA.2 sub-variants. The Taskforce is aware of in vitro data that suggest potentially reduced efficacy against these variants; and while the clinical implications of this are not certain, given the availability of other treatments, where infection with Omicron BA.2 is confirmed or considered likely, use of sotrovimab should not be considered unless other treatments are unsuitable or unavailable.

TGA-approved for adolescents aged 12 years and older and weighing at least 40 kg.

Casirivimab plus imdevimab (Ronapreve) should not routinely be used where Omicron is the dominant circulating variant. Ronapreve is TGA-approved for adolescents aged 12 years and older weighing at least 40 kg.