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| SIDP Remdesivir Toolkit – Patient Selection/Prioritization Matrix |
| **What is remdesivir?**Remdesivir is FDA-approved for treatment of COVID-19 in adults and pediatric patients (≥28 days of age and weighing ≥3kg) if they are:* Hospitalized or
* Not hospitalized, have mild-to-moderate symptoms related to COVID-19 and are at high risk for progression to severe disease

Guidance is applicable to both adult and pediatric patients (≥28 days of age and weighing ≥3kg) but ability of infusion care setting to accommodate pediatric patients may be variable.

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| **Outpatient** |
| **Care Setting** | **Eligibility Criteria** | **Recommended Remdesivir Treatment Regimen** | **Additional Considerations for Limited Capacity Outpatient Settings** |
| **Non-Hospitalized** (Infusion Center, Emergency Department, Skilled Nursing Facility, Acute Care/Hospital in the Home, Hospital Bedded Outpatients, Home Health) | * Positive SARS-CoV2 PCR or antigen test and mild to moderate **symptoms started within 7 days** of positive test
* Adult or Pediatric patients (>28 days and weighing >3kg)
* Unable to use nirmatrelvir/ritonavir
* Current episode not already treated with nirmatrelvir/ritonavir or molnupiravir or other COVID-19 therapies *(lack of data supporting combination regimens or use in the setting of therapeutic failure of other therapies)*

**AND*** Moderately to severely Immunocompromised\* **OR**
* Incomplete COVID-19 vaccination series or unvaccinated status **OR**
* High Risk Disease Progression Criteria#
 | **Remdesivir 3-day regimen**Remdesivir 200mg IV x 1 on day 1followed by remdesivir 100mg IV once daily on days 2 and 3*If first dose administered in emergency department, ensure coordination of doses to complete course* | Consider using High Risk Disease Progression Criteria to identify patients that qualify for outpatient remdesivir (i.e., patients with ≥X High Risk Disease Progression Criteria)Consider risk stratification/scoring tools to further identify high risk patients to prioritize for remdesivir. Example: (<https://www.mdcalc.com/covid-19>)  |
| **Inpatient Hospital** |
| **Care Setting** | **Eligibility Criteria** | **Recommended Remdesivir Treatment Regimen** | **Other Adjunct Treatments** |
| Hospitalized (Non-COVID-19 cause for hospitalization but incidentally found to be positive) | * Positive SARS-CoV2 PCR or antigen test and mild to moderate **symptoms started within 7 days** of positive testꝉ
* Unable to use nirmatrelvir/ritonavir

**AND*** Moderately to severely Immunocompromised\* **OR**
* Incomplete COVID-19 vaccination series or unvaccinated status **OR**
* High Risk Disease Progression Criteria#
 | **Remdesivir 3-day regimen**Remdesivir 200mg IV x 1 on day 1followed byremdesivir 100mg IV once daily on days 2 and 3 ^*May complete course in outpatient setting*  | None |
| Hospitalized for COVID-19 NOT requiring oxygen supplementation - **Immunocompetent** | * **Symptoms started within 7 days** of positive testꝉ
* High Risk Disease Progression Criteria#
 | **Remdesivir 5-day regimen**Remdesivir 200mg IV x 1 on day 1Followed byRemdesivir 100mg IV once daily on days 2-5  | Corticosteroids not recommended |
| Hospitalized for COVID-19 NOT requiring oxygen supplementation – **Immunocompromised\*** | * Therapy initiated within 7 days of symptom onset is generally recommendedꝉ, however some may still consider initiation regardless of onset of symptoms in immunocompromised patients (limited data/evidence)
 | **Remdesivir 5-day regimen**Remdesivir 200mg IV x 1 on day 1Followed byRemdesivir 100mg IV once daily on days 2-5 | Corticosteroids not recommended |
| Hospitalized for COVID-19 requiring oxygen supplementation - **Immunocompetent** | * **Symptoms reported started 7 days** of positive testꝉ
 | **Remdesivir 5-day regimen**Remdesivir 200mg IV x 1 Followed byRemdesivir 100mg IV once daily on days 2-5 | Consider corticosteroid for patients with high flow oxygen requirement |
| Hospitalized for COVID-19 requiring oxygen supplementation – **Immunocompromised**\* | * Therapy initiated within 7 days of symptom onset is generally recommendedꝉ, however some may still consider initiation regardless of onset of symptoms in immunocompromised patients (limited data/evidence)
 | **Remdesivir 5-day regimen**Remdesivir 200mg IV x 1 on day 1Followed byRemdesivir 100mg IV once daily x on days 2-5  | Consider corticosteroid for patients with high flow oxygen requirement |
| Hospitalized for COVID-19 requiring ECMO or mechanical ventilation |  | Do not initiate remdesivir treatment; continue remdesivir for a total 5-day course if started prior decompensation requiring transition to ECMO or mechanical ventilation | Corticosteroid and consideration for additional immunomodulator (tocilizumab or baricitinib) if acute, rapid respiratory decompensation and CRP>100 mg/L. |

ꝉ It was the consensus of the clinical experts contributing to this guidance document to recommend initiation of therapy within 7 days of symptom onset based on the results of the DisCoVeRy Trial. It should be noted that NIH and IDSA guidelines do not currently (as of May 2023) stipulate time to initiate therapy relative to symptom onset for hospitalized patients.**\*Conditions inferring moderately or severely immunocompromised status in adult and pediatric patients:*** Undergoing active treatment for solid tumor or hematologic malignancy
* Solid organ transplant
* CAR T-cell therapy or hematopoietic stem cell transplantation
* Primary immunodeficiency (moderate to severe)
* Advanced/untreated HIV (CD4 < 200 cell/mm3) or AIDS-defining illness without immune reconstitution
* Immunosuppressant or immunomodulatory medications including but not limited to:
	+ Transplant immunosuppression
	+ Alkylating agents
	+ TNF blockers
	+ Anti-CD20 B-cell depleting agents
	+ High-dose corticosteroids (≥20 mg prednisone or equivalent per day (or ≥2 mg/kg/day in children who weigh < 10 kg) for ≥2 weeks)
	+ Anti-thymocyte globulin

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| **Underlying Medical Conditions Associated with Higher Risk for Severe COVID-19** |
| **# Adult High Risk Disease Progression Criteria1** | **# Pediatric High Risk Disease Progression Criteria3,4,5** |
| * **Age > 65 years¥**
* Resident of long-term care facility
* **Obesity (BMI>25 kg/m2) ¥**
* Pregnancy or recent pregnancy
* Cancer/hematologic malignancy
* Chronic kidney disease
	+ Dialysis
* **Diabetes mellitus (Type 1 or Type 2) ¥**
* Dementia
* Immunosuppressive disease or immunosuppressive treatments
	+ Human immunodeficiency virus (HIV)
	+ Solid organ or stem cell transplant
* Cardiovascular disease or **hypertension¥**
	+ Heart failure
	+ Coronary artery disease
* Cerebrovascular disease
* Chronic lung disease
	+ Asthma
	+ Bronchiectasis
	+ Chronic obstructive lung disease
	+ Interstitial lung disease
	+ Pulmonary hypertension
	+ Pulmonary embolism
* Chronic liver disease
	+ Cirrhosis
	+ Non-alcoholic fatty liver disease
	+ Alcoholic liver disease
	+ Autoimmune hepatitis
* Cystic Fibrosis
* Sickle Cell Disease
* Neurodevelopment disorder

Medical-related technological dependence (tracheostomy, gastrostomy) | * Immunosuppressive disease or immunosuppressive treatments
* BMI>95th percentile (age>/=5 years)
* Neurodevelopmental disorder, genetic abnormality or metabolic disorder
* Medical-related technological dependence (tracheostomy, gastrostomy)
* Oxygen- or ventilator-dependent chronic lung disease or neuromuscular disease
* Chronic respiratory conditions (requiring 2 or more inhaled medications, or one or more systemic medications)
	+ Interstitial lung disease
	+ Asthma
	+ Pulmonary hypertension (on treatment)
* Congenital or acquired heart disease
	+ Single ventricle
	+ Complex conotruncal disease
	+ Cardiac failure
* Pregnancy or recent pregnancy
* Chronic kidney or liver disease
* Sickle cell disease
* Diabetes mellitus
* Premature birth (gestational age <29 weeks) {current age 28 days to 1 year}
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**¥ Criteria identified in PINETREE2 commonly linked to COVID-19 disease progression**1. National Center for Immunization and Respiratory Diseases (NCIRD), Division of Viral Diseases. Underlying medical conditions associated with high risk for severe COVID-19: Information for healthcare professionals. 2023. <https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-care/underlyingconditions.html#:~:text=systematic%20review%20process.-,Background,are%20also%20at%20higher%20risk.&text=Additionally%2C%20being%20unvaccinated%20or%20not,of%20severe%20COVID-19%20outcomes>. Accessed February 10, 2023.
2. Gottlieb RL, et al. Early remdesivir to prevent progression to severe COVID-19 in outpatients. *N Engl J Med* 2022; 386:305-315. DOI: 10.1056/NEJMoa2116846
3. American Academy of Pediatrics. Management strategies in children and adolescents with mild to moderate COVID-19. 2022. <https://www.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/clinical-guidance/outpatient-covid-19-management-strategies-in-children-and-adolescents>. Accessed February 10, 2023.
4. National Institutes of Health. The Panel’s framework for assessing the risk of progression to severe COVID-19 based on patient conditions and COVID-19 vaccination status. 2022. <https://www.covid19treatmentguidelines.nih.gov/tables/assessing-risk/>. Accessed February 10, 2023.
5. Minnesota Department of Health. Suggested criteria for the use of outpatient antiviral therapy for COVID-19 in Children. 2022. <https://www.health.state.mn.us/diseases/coronavirus/hcp/mabchild.pdf>. Accessed February 14, 2023.
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