



Optimizing Therapeutics in COVID-19

The National Institutes for Health published its final version of the coronavirus disease 2019 (COVID-19) treatment guidelines in 2024 and is no longer maintaining their website. These guidelines make recommendations for hospitalized adults regarding antiviral management and supportive care measures to reduce morbidity and mortality.¹

What is the recommended management of hospitalized patients with COVID-19?

Disease Severity	Clinical Scenario	Recommended Therapy	Additional notes
No oxygen requirements	Patients at high risk of progression to severe disease	Remdesivir	Corticosteroids <u>not</u> recommended
Conventional oxygen (e.g. nasal cannula)	Most patients	Dexamethasone + remdesivir	Therapeutic heparin recommended in non-pregnant patients with elevated D-dimers and <u>not</u> at risk of bleeding
	Rapidly increasing oxygen requirements	Dexamethasone + remdesivir + immunomodulator (preferred: baricitinib or tocilizumab)	
HFNC or NIV	All patients	Dexamethasone + baricitinib Consider addition of remdesivir in immunocompromised patients or within 10 days of symptom onset	Therapeutic anticoagulation should <u>only</u> be utilized for non-COVID-19 indication
MV or ECMO	All patients	Dexamethasone + immunomodulator (baricitinib or tocilizumab)	

ECMO: extracorporeal membrane oxygenation; HFNC: high flow nasal cannula; MV: mechanical ventilation; NIV: non-invasive ventilation

What about empiric antibiotics?

Empiric antibiotics are NOT recommended in the COVID-19 guidelines, but utilized in up to 84% of patients.^{1,2} A large meta-analysis in hospitalized COVID-19 patients found that bacterial co-infection within 48 hours of admission was only 5.3%.³ These data show that antibiotics on admission are not needed in the majority of COVID-19 patients. Antimicrobial stewardship interventions have been shown to decrease antibiotic exposure in COVID-19 patients.^{4,5}

Are supportive therapies important to antimicrobial stewardship?

Yes! Appropriate immunomodulatory therapy can reduce complications and bacterial superinfections. The rate of hospital-acquired infection in patients with COVID-19 in one review was 18.4%.³ This highlights the importance of stabilizing and discharging patients to prevent secondary infection and subsequent antibiotic exposure. A randomized, placebo-controlled trial of baricitinib in COVID-19 demonstrated a 50% reduction in the odds of a secondary infection.⁶

Key Takeaway: Antiviral medications, corticosteroids and immunomodulators should be utilized as recommended in COVID-19. Antibiotics should be utilized judiciously.

References

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