

WHO recommends corticosteroids for patients with severe or critical COVID-19

Lamontagne F, Agoritsas T, Macdonald H, et al. **A living WHO guideline on drugs for covid-19.** *BMJ.* 2020;370:m3379.

Guideline scope: Version 1 of a living guideline by the World Health Organization (WHO) and MAGIC Evidence Ecosystem Foundation on the use of drug interventions for prevention and treatment of coronavirus disease 2019 (COVID-19). This version focuses on corticosteroid therapy in patients with confirmed COVID-19.

Methods: An international panel reviewed evidence and drafted recommendations based on a living systematic review and meta-analysis* that searched the U.S. Centers for Disease Control and Prevention COVID-19 Research Articles Downloadable Database (25 bibliographic and gray

literature sources) and 6 Chinese databases to 10 Aug 2020 for randomized controlled trials (RCTs).

Funding: No external funding reported. The nonprofit MAGIC Evidence Ecosystem Foundation contributes pro bono to this living WHO guideline, together with the *BMJ*.

*Siemieniuk RAC, Bartoszko JJ, Ge L, et al. Drug treatments for covid-19: living systematic review and network meta-analysis. *BMJ* 2020;370:m2980.

Results: Recommendations on corticosteroids vs. usual supportive care for patients with COVID-19†

Recommendations (strength)	Evidence (certainty‡)
Systemic corticosteroids are recommended for patients with severe§ or critical COVID-19 (strong)	Decreased 28-d mortality in <i>critically ill</i> patients: RR, 0.79 (95% CI, 0.70 to 0.91); absolute effect, 87 fewer deaths/1000 (7 RCTs; n = 1703) (moderate) Decreased 28-d mortality in <i>severely ill</i> patients: RR, 0.80 (CI, 0.70 to 0.92); 67 fewer deaths/1000 (1 RCT; n = 3883) (moderate) Increased risk for hyperglycemia (46 more events/1000 patients) (moderate) and hypernatremia (26 more events/1000 patients) (moderate) No difference for gastrointestinal bleeding, superinfection, neuromuscular weakness, or neuropsychiatric effects (low)
Systemic corticosteroids are not recommended for patients with nonsevere COVID-19 (weak)	No decrease in 28-d mortality: RR, 1.22 (CI, 0.93 to 1.61) (1 RCT; n = 1535) (low)

COVID-19 = coronavirus disease 2019; RCT = randomized controlled trial; other abbreviations defined in Glossary. The guideline is available at <https://app.magicapp.org/#/guideline/EZYw5n>.

†Excludes transdermal or inhaled administration of corticosteroids, high-dose or long-term regimens, or prophylaxis.

‡Based on GRADE (Grading of Recommendations, Assessment, Development and Evaluation) criteria.

§Severe COVID-19: any of oxygen saturation <90% on room air; respiratory rate >30 breaths/min in adults and children aged >5 y, ≥60 breaths/min in children <2 mo of age, ≥50 in children aged 2 to 11 mo, and ≥40 in children aged 1 to 5 y; or severe respiratory distress.

||Critical COVID-19: criteria for acute respiratory distress syndrome, sepsis, septic shock, or other conditions that would require life-sustaining therapies (mechanical ventilation or vasopressor therapy).

Bottom line: WHO recommends corticosteroid therapy for patients with severe or critical COVID-19 (strong recommendation) and recommends against corticosteroid therapy for nonsevere COVID-19 (weak recommendation).

Commentary: As COVID-19 spreads globally, health care providers face simultaneous challenges of providing care to a rapid influx of patients using overextended resources and staying up to date with a rapidly expanding body of literature. In addition, the “viral” spread of misinformation and unsubstantiated data by news reports, public figures, and social media has made the task of keeping current almost impossible.

The U.S. National Institutes of Health has created living guidelines to provide accurate, timely, and clear recommendations that are updated as emerging evidence is produced (1). Likewise, WHO convened an international panel to systematically review the literature and provide recommendations on therapies for patients with COVID-19.

Lamontagne and colleagues address the use of corticosteroids in the first version of this WHO guideline. Corticosteroids have been widely used in critically ill patients with COVID-19 after a preliminary publication of the RECOVERY trial in July 2020 (2). Lamontagne and colleagues assessed pooled data from 8 RCTs (n = 7184) and recommend treatment with corticosteroids in patients with severe or critical illness from COVID-19 based on a reduction in 28-day mortality. They also recommend against

corticosteroid treatment in non-critically ill patients based on no reduction (or even a potential increase) in mortality.

The advent of living guidelines is an important innovation for the medical community, in contrast to guidelines that are often outdated upon publication. Living guidelines have the potential to provide a trustworthy cumulative synthesis of the literature and affect clinical practice of health care providers globally.

Holly Keyt, MD
 UT Health San Antonio
 San Antonio, Texas, USA

Disclosures: The commentator has disclosed no conflicts of interest. The form can be viewed at www.acponline.org/authors/icmje/ConflictOfInterestForms.do?msNum=M20-7312.

References

1. **COVID-19 Treatment Guidelines Panel.** Coronavirus disease 2019 (COVID-19) treatment guidelines. National Institutes of Health. Accessed at www.covid19treatmentguidelines.nih.gov/ on 28 Oct 2020.
2. **RECOVERY Collaborative Group, Horby P, Lim WS, Emberson JR, et al.** Dexamethasone in hospitalized patients with Covid-19—preliminary report. *N Engl J Med.* 2020. [Epub ahead of print].