

## **Inhaled Steroids and COVID-19**

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As local specialists in Pulmonary Medicine and Critical Care, we are concerned that some local healthcare providers have continued to prescribe therapy with inhaled steroids (ICS) for the treatment of Covid-19 infections.

Specifically, these providers have recommended and prescribed Budesonide as a treatment for acute Covid-19 infections. The significance of the problem became clear as we have had to persuade multiple patients and their families that the use of Budesonide has no proven benefit and may be harmful in the treatment of Covid-19 infections.

Please note that Budesonide and other inhaled steroids do have a role in some patients' care; those with long standing reactive airway disease or COPD, for instance, may benefit from ICS. Patients using inhaled steroids for those conditions should follow their providers' instructions; however, no one should be suggesting using inhaled steroids specifically for Covid-19 infection. Please read the following to understand why our Pulmonary and Critical Care specialists will not prescribe Budesonide or any inhaled steroid for patients they are treating for complications of Covid-19.

1. Is there any information that Budesonide is helpful in the treatment of COVID-19 infections in the outpatient setting?
  - a. There are no studies that support the use of Budesonide. In Europe, the STOIC trial is ongoing with nothing reported at this time.
  - b. The FDA has issued a warning letter to Nephron Pharmaceuticals Corporation (Nephron is the producer of Budesonide) due to emails Nephron's CEO and a sales representative had sent concerning its product Budesonide Inhalation Suspension. Nephron was the subject of complaints submitted to the FDA's Bad Ads Program. The censure was for suggesting the use of Budesonide for Covid-19, when there is no supporting information according to the FDA.
  
2. Is there any information that Budesonide or any inhaled steroid has benefit in an inpatient setting for COVID patients?

- a. No, there is no supporting information. One study, the RECOVERY trial, used IV steroids, not inhaled steroids, and did show benefit in those requiring supplemental oxygen or mechanical ventilation. Both Midland Memorial and Medical Center Hospital have been using IV steroids successfully since early in the pandemic.
3. Is there any information that Budesonide or any inhaled steroid can be harmful if given to COVID patients?
- a. Inhaled steroids in general can increase the risk of pneumonia. One patient in MMH who was given the inhaled steroid developed a serious pneumonia.
  - b. Study in Lancet (a well-respected medical journal) identified increased risk of death in patients with COPD and Asthma who were prescribed inhaled steroids. The reference:  
Lancet; VOLUME 8, ISSUE 11, P1106-1120, NOVEMBER 01, 2020; Risk of COVID-19-related death among patients with chronic obstructive pulmonary disease or asthma prescribed inhaled corticosteroids: an observational cohort study using the Open SAFELY platform
  - c. As for our experience at Midland Memorial Hospital and Medical Center Hospital, as of mid-November, we had 25 patients prescribed Budesonide in one form or another that were admitted with Covid-19 infections. Of those:
    - i. 9 patients were newly prescribed Budesonide shortly prior to admission (presumably as a treatment for Covid-19); 5 of these 9 patients died. That is higher than expected for our Covid-19 hospitalizations.