

UPDATE ALERT

Update Alert: Ventilation Techniques and Risk for Transmission of Coronavirus Disease, Including COVID-19

The end date for this most recent search update for our living systematic review (1) is 7 June 2020. We found 6 new citations that met eligibility for inclusion in our review addressing noninvasive mechanical ventilation for individuals with acute hypoxic respiratory failure caused by coronavirus (coronavirus disease 2019 [COVID-19], Middle East respiratory syndrome, and severe acute respiratory syndrome) (2-7). Five are cohort studies (2, 4, 5-7) and one is a randomized controlled trial (RCT) (4) (Supplement Tables 1 and 2). The RCT, which had some concerns regarding risk of bias, compared high-flow nasal cannula (HFNC) with standard oxygen therapy in 74 patients with COVID-19 (4). Use of HFNC was associated with a reduction in the need for invasive mechanical ventilation and improvements in oxygenation compared with standard oxygen therapy. Of the 5 cohort studies, 1 compared HFNC with invasive mechanical ventilation (3), 1 compared bilevel noninvasive ventilation with standard oxygen therapy (7), 1 compared bilevel noninvasive ventilation with both invasive mechanical ventilation and standard oxygen therapy (6), 1 compared bilevel noninvasive ventilation with HFNC (5), and 1 compared bilevel noninvasive ventilation with invasive mechanical ventilation (2). All of the cohort studies had moderate risk of bias with Ottawa-Newcastle scores of 6 to 7. Two of them included fewer than 10 patients with such a low number of events that trustworthy conclusions were not possible (3, 5). The other cohort studies did not report many of our outcomes of interest; when they did, there was no important difference between groups.

In summary, the most informative new study included in this update, an RCT done by Li and colleagues (4), demonstrated results consistent with our current understanding that the use of HFNC compared with standard oxygen therapy may decrease the need for invasive mechanical ventilation in patients with COVID-19.

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