

## Mechanical Ventilation in COVID-19



There is no specific treatment for COVID-19 patients. For those who develop respiratory failure and are unable to oxygenate with non-invasive methods, critical care doctors are providing supportive therapy. Since the pandemic started, [mechanical ventilation](#) has routinely been employed to oxygenate seriously ill COVID-19 patients. Each hospital has developed its own criteria for identifying patients who require mechanical ventilation but the data on whether these patients actually need the ventilator are confusing.

Several reports from the UK and the US show that COVID-19 patients who have received mechanical ventilation have poor outcomes and higher rates of mortality. But experts argue that these data are heterogeneous and may include patients who should not have been intubated in the first place. On the other hand there are some data indicating that certain COVID-19 patients with minor respiratory symptoms were incubated early and consequently, their survival improved.

Some of the issues that have come up when deciding on mechanical ventilation are when to use mechanical ventilation, how to assess the patient, and what type of mechanical ventilation should be used. The second question surrounds mortality - what did the patient die from, was an autopsy done and did the comorbidities influence mortality? Unfortunately, the decision on when to intubate do not only pertain to COVID-19 patients but to all seriously ill patients who have difficulty breathing. Global data on COVID-19 patients shows that anywhere from 2.3-89.9% of patients admitted to the ICU have been ventilated.

An important problem with mechanical ventilation is the availability of resources. There is some data that suggests the shortage of mechanical ventilators has led physicians to use noninvasive methods to manage seriously ill patients, which may be another factor leading to the high mortality rates. But the other side of this equation is, 'would early mechanical ventilation have changed the course of the patient?'

Another important question to ask is: who made the decision to use non-invasive ventilation? Did the family not want any aggressive measures? Did these patients have other serious comorbidities that would have made mechanical ventilation futile?

Unfortunately, most of the published data on mechanical ventilation of COVID-19 patients lack transparency regarding resources and clinical decision making, which makes it difficult to interpret the data. We need to know the mortality rate of COVID-19 patients who are ventilated. So far, the numbers vary considerably. The reason for the variation is the failure to include all ventilated ICU patients as many may have died due to non-COVID19 issues.

The data on mechanical ventilation of COVID-19 patients is difficult to interpret but several things are clear. Those who require ventilation may require it for a long time; and the longer the dependency, the higher the mortality or adverse outcomes.

Until more universal criteria are adopted for choosing to ventilate, and till we continue to use the same mode of ventilation and reporting methods, the role of mechanical ventilation for COVID-19 patients will remain unclear.

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