

MEDICAL BREAKTHROUGHS **RESEARCH SUMMARY**

TOPIC: FIGHTING COVID ON THE FRONT LINES: VENTILATOR APP
REPORT: MB #4746

BACKGROUND: Mechanical ventilation is one of the most common interventions implemented in the intensive care unit (ICU). In the first 24 hours of an ICU admission, more than half of the patients are ventilated. These patients include those with acute respiratory failure, compromised lung function, difficulty in breathing, or failure to protect their airway. There are several methods of mechanical ventilation support that provide air to the patient based on pressure, flow and volume. Mechanical ventilation is known for saving lives, but can also be associated with life threatening complications, including air leaks and pneumonia.

(Source: <https://www.aast.org/GeneralInformation/mechanicalventilation.aspx>)

VENTILATORS AND COVID-19: Some intensive care units are waiting until the last possible moment, when it is truly a life-or-death decision, to put a COVID-19 patient on a ventilator. "We let these patients tolerate a little more hypoxia [oxygen deficiency]. We give them more oxygen. We don't intubate them until they are truly in respiratory distress," said Dr. Udit Chaddha, an interventional pulmonologist with Mount Sinai Hospital in New York City. "If you do this correctly, if you put somebody on the ventilator when they need to be put on the ventilator and not prematurely, then the ventilator is the only option." Experts estimate that between 40% and 50% of patients die after going on ventilation, regardless of the underlying illness. Ventilated patients are at risk of ventilator-associated acute lung injury, infection, and psychological complications. ICU's are becoming more cautious in their use of ventilation, using oxygen and breathing dilators like nitric oxide to keep people drawing their own breath for as long as possible.

(Source: <https://www.webmd.com/lung/news/20200415/ventilators-helping-or-harming-covid-19-patients#1>)

IMPROVEMENTS IN CARING FOR COVID PATIENTS: A home monitoring program has been developed that allows caregivers to quickly respond to those in need. This new tool is designed to manage care fast and efficiently while keeping patients safe in their homes. It's an app that provides an alternative to virtual visits by enabling a personalized connection between patients and providers and is connected to patients' medical records. "The idea is for the patient to feel engaged in their healthcare and that somebody is watching over them – it gives them that extra level of comfort," said Eric Boose, Associate Chief of Cleveland Clinic's Medical Information Office. "Using technology as part of the health care team is a big change for all of us during this pandemic, but it also gives us this great capability of keeping an eye on a larger amount of patients at one time, so that we can really focus on the ones that are having condition changes."

(Source: <https://newsroom.clevelandclinic.org/2020/04/17/cleveland-clinic-innovations-are-improving-the-fight-against-covid-19/>)

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If this story or any other Ivanhoe story has impacted your life or prompted you or someone you know to seek or change treatments, please let us know by contacting Marjorie Bekaert Thomas at mthomas@ivanhoe.com