

Improving Frontline Staff Safety: Safe Patient Handling & Mobility Equipment Eases Positioning for COVID-19 Patients

For patients infected with the coronavirus, up to 17% have been identified as having acute respiratory distress syndrome (ARDS)¹. Despite advances in emergency care, the mortality rate for ARDS patients is 30-40%.² One of the top therapies identified to improve ventilation for patients with ARDS is prone positioning. When a patient is in the supine position, gravity and the chest wall compress the lungs. When the patient is turned onto their stomach in the prone position, the lungs are able to expand and oxygenation is improved.³ Further benefits include “less injurious ventilation”⁴ and ultimately “reduce[d] mortality in patients with severely impaired oxygenation...[when]...started early, for prolonged periods, and...associated to a protective ventilation strategy.”⁵

A recent small study in New York revealed great promise for this simple therapy with COVID-19 patients. Dr. Nicholas Caputo, associate chief and attending physician in the emergency medicine department at NYC Health and Hospitals and Dr. Richard Levitan, an airway specialist, followed 50 COVID-19 patients who were placed in a prone position at one hospital in The Bronx. Caputo explained, “...in those 50 patients, within the first 24 hours, we were able to avoid intubation in three quarters of them.”⁶

While the patient benefits are evident, the physical and logistical requirements for staff of implementing an effective proning and repositioning schedule for COVID-19 patients are taxing. In their meta-analysis, Munshi et al. state, “Prone positioning is likely to reduce mortality among patients with severe ARDS when applied for at least 12 hours daily.”⁷ Another study concludes, “[t]he position of patients placed in prone position should be changed every 2 hours and sides should be switched. At least 3 to 5 individuals should participate to correctly put intubated patients in prone position, which is a serious limitation for keeping the patient in this position for a long time.”⁸ The burden for this task is especially heavy given the current need to limit the number of staff in ICU rooms to reduce virus exposure and the use of Personal Protective Equipment (PPE).

In her article published in the *Journal of Safe Patient Handling and Mobility*, Tampa General Hospital (TGH) manager of the Injury Prevention Team, Manon Labreche explains the musculoskeletal implications for caregivers prone positioning COVID-19 patients: “Although this position can be beneficial to treat patients, this task poses a high risk of injuries to healthcare workers if it is performed manually.”⁹ The use of Safe Patient Handling and Mobility (SPHM) equipment is therefore critical in protecting the safety of caregivers who are working to provide the best possible outcomes for their patients. As Latvala and Masterman state in their article *The Impact of Coronavirus (COVID-19) on Safe Patient Handling and Mobility: Clinical Considerations for Best Practice*, use of SPHM equipment can “help to minimize the number of caregivers need[ed] to safely care for a patient, reducing the risk of injury to both the caregiver and patient, thereby promoting patient mobilization” and “may help to decrease the number of necessary bedside caregivers, thereby decreasing the number of potential caregiver exposure to COVID-19 and the amount of PPE being utilized.”¹⁰

At TGH, their well-implemented and nationally recognized SPHM program is led by a trained Injury Prevention (IP) team that was instrumental in developing a SPHM plan for their COVID-19 patients and staff. To address the risks of turning and prone positioning, “the plan included placing all dependent patients on a patient-specific air-assisted device regardless of their size, as well as ensuring that a portable or permanent ceiling lift, charger, and an air-assisted device pump are available in each of these rooms. Having patient handling equipment readily available in each room allows the nursing staff to use the equipment on their own to reposition smaller/less complex patients without help, minimizing exposure and preserving PPE.” Beyond equipment, the IP team provided up-front and continuous support, including hands-on education, development of educational videos and techniques to minimize manual effort for turning and proning. Their early and

thorough implementation of a COVID-19 SPHM plan has been very successful, as Labreche notes “there have been no patient handling injuries reported on the COVID-19 units since the beginning of this pandemic.”⁹

The case for mobility in COVID-19 patients extends beyond the task of prone positioning those in a critical respiratory state. Early mobility has been documented to have many benefits for critically ill patients, including decreased delirium days, decreased time on ventilators, decreased hospital acquired conditions (i.e. pneumonia, deep vein thrombosis, pressure injuries and falls), decreased length of hospital stay, decreased incidence of readmission, and most importantly, decreased mortality rates. Latvala and Masterman explain: “The importance of early mobilization becomes even more crucial as patients who are not mobilized during the COVID-19 illness will have a longer and more difficult time returning to their baseline, post recovery.” Yet, as staff and PPE are limited, further early mobilization activities must be handled with just as much consideration for staff as for their patients. Latvala and Masterman assert: “Many of these activities can be achieved with the use of SPHM technology, thereby eliminating the need for manual handling and multiple caregivers. Accordingly, the risk for falls is reduced, as is the risk of injury to both the caregiver and the patient.”¹⁰

The immediate benefits and long-term improved patient outcomes related to prone positioning patients with ARDS and early mobility for critically ill patients have been clearly documented. Similarly, the use of SPHM equipment has been shown to greatly impact safety for staff and patients.¹¹ Although COVID-19 presents unique challenges, the role of SPHM equipment for patient and caregiver safety is as important as ever. Supporting frontline staff requires a continued emphasis on protecting their safety, so they may continue to serve our communities while ensuring their own quality of life. In addition to PPE, SPHM equipment should be regularly employed as part of an integrated COVID-19 safety policy. As the program at TGH demonstrates, ensuring the availability, accessibility and educational support for SPHM will serve to protect staff and encourage necessary mobility for critically ill patients. Utilizing SPHM equipment during COVID-19 accommodates the current need for minimal staffing to reduce exposure and preserve PPE, as well as to position patients safely and efficiently to promote optimal care and improved outcomes.

HoverTech International’s **HoverMatt® Single-Patient Use (SPU) Air Transfer System** and **HoverSling® Repositioning Sheet** can be used to achieve air-assisted and overhead lift turning, proning and lateral transfers with minimal staff and minimal effort. Use of the HoverMatt SPU and HoverSling Repositioning Sheet greatly reduces risk of injury for staff, while providing a more comfortable and safer experience for the patient.

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