

Extended Prone Positioning for COVID-19 ARDS



COVID-19 has resulted in an estimated 270,000 hospitalisations in ICUs in Europe between May 2020 and March 2022. Nearly 80% of these patients have required tracheal intubation and invasive mechanical ventilation. While there is still an ongoing debate whether acute respiratory distress syndrome (ARDS) pathophysiology is the same in COVID-19 and non-COVID-19 patients, there is consensus on the benefits of prone position.

Many patients were turned prone during the COVID-19 pandemic - 70% of patients with COVID-19-related ARDS have been turned prone contrary to non-COVID-19 ARDS. This has resulted in a significant increase in workload. However, very little attention has been paid to whether extending the prone position duration is beneficial.

In this study, the researchers examine the benefits and detriments of the extended prone positioning strategy for COVID-19 related ARDS. The study included ICU patients with COVID-19 ARDS who required tracheal intubation and had been treated with at least one prone position session greater or equal to 24 hours. Patients were kept prone for two nights once the session was initiated. Study researchers collected data regarding the incidence of pressure injury and ventilation parameters. The primary outcome of the study was the occurrence of pressure injury of stage \geq II during ICU stay.

Study findings show that for the 81 patients included, the median duration of prone positioning sessions was 39 hours. The cumulated incidence of stage \geq II pressure injuries was 26% and 2.5% for stages III/IV pressure injuries. Patients were submitted to a median of two sessions. For 94% prone positioning sessions, patients were turned over to a supine position during the daytime (between 9 AM-6 PM). The increased duration of prone position was associated with an additional increase in oxygenation after 16 hours, with the $\text{PaO}_2/\text{FiO}_2$ ratio increasing from 150 mmHg to 162 mmHg before being turned back to supine.

For patients who underwent an extended duration of prone position for up to 39 hours, the cumulative incidence for stage \geq II pressure injuries was 26%, with 25%, 2.5%, and 0% for stage II, III, and IV, respectively. Oxygenation increased significantly beyond the standard 16-hour duration.

Overall, study findings show that a strategy of extended duration of proning sessions up to 48 hours in patients with COVID-19 ARDS did not increase the risk of pressure injuries compared with prone position sessions of shorter duration in non-COVID-19 ARDS. In addition, it reduced staff workload and viral exposure and was also associated with improvements in oxygenation and ventilatory parameters.

Source: [Critical Care](#)

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