Development of a Prone Team and Exploration of Staff Perceptions During COVID-19

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ABSTRACT

Objective: As intensive care unit bed capacity doubled because of COVID-19 cases, nursing leaders created a prone team to support labor-intensive prone positioning of patients with COVID-related acute respiratory distress syndrome. The goal of the prone team was to reduce workload on intensive care teams, standardize the proning process, mitigate pressure injuries and turning-related adverse events, and ensure prone team safety.

Methods: Staff were trained using a hybrid learning model focused on prone-positioning techniques, pressure injury prevention, and turning-related adverse events.

Results: No adverse events occurred to patients or members of the prone team. The prone team mitigated pressure injuries using prevention strategies. The prone team and intensive care unit staff were highly satisfied with their experience.

Conclusion: The prone team provided support for critically ill patients, and team members reported feeling supported and empowered. Intensive care unit staff were highly satisfied with the prone team.

Key words: COVID-19, proning, prone positioning, prone team, SARS-CoV-2

On January 30, 2020, the World Health Organization declared the novel coronavirus, subsequently named SARS-CoV-2, a public health emergency.1 Within weeks, the COVID-19 pandemic confronted the US health care system with the unprecedented need to react in real time. This public health emergency was like no other. For the most
critically ill, there were devastating sequelae, yet a dearth of curative interventions.

In the early stage of the pandemic, the focus was on treating symptoms associated with acute respiratory distress syndrome (ARDS) caused by SARS-CoV-2, specifically the destruction of lung tissue and, most notably, the alveoli. SARS-CoV-2 infection causes mild disease in most people but has led to severe disease with acute hypoxic respiratory failure (ie, ARDS) in many. Nearly 25% of this population requires mechanical ventilatory support. Usually within 1 week of exposure, patients present with dyspnea, increased pulmonary edema, and bilateral opacities like ground glass on chest imaging.2,3

Background

Reports from China and Italy, 2 countries hit early with the illness, noted that the practice of proning, a known but often last-ditch effort, could improve oxygenation for many patients.4,5 First proposed in the 1970s, prone positioning (PP) in patients with moderate to severe ARDS considerably improves oxygenation and significantly reduces both mortality and ventilator-associated pneumonia.6 Prone positioning increases lung volume and decreases atelectasis by recruiting alveoli, improving dependent aeration, and mobilizing secretions. Prone positioning also reduces ventilator-related lung injury due to overdistention that occurs with higher positive end-expiratory pressure. Simply put, in normal supine position, the heart, diaphragm, and liver cause pressure on alveoli, collapsing them. In the prone position, where the heart, diaphragm, and liver are not compressing lung tissue, there are more available alveoli to recruit, thereby improving oxygen–carbon dioxide exchange. Ultimately, oxygenation improves.7-9 In this article, we share how 1 large academic institution addressed the oxygenation needs of patients with COVID-19 by developing and implementing a proning program.

Methods

Development and Planning

As COVID-19 cases began to inundate this large academic medical center, critical care stakeholders and patient care services safety leaders recognized the need to create a best-practice resource to support PP for the highest-acuity patients in the 6 legacy and 5 pop-up intensive care units (ICUs). Staff in 3 of the legacy ICUs had the knowledge and clinical acumen to prone patients, but only 1 unit was using this therapy regularly. Despite the benefits of PP being well documented in the research literature, studies show it is underused.10-13 Likely reasons for aversion to the practice may be misperceptions of the need for resource-intensive training, acquisition of specialty equipment, or provider-level misconceptions of higher risk for adverse events during the practice of turning that would outweigh the benefit of improved oxygenation.14 Given the benefit to patients and the critical juncture of the facility with patient load, it was determined by nursing and hospital leadership that a proning program should be implemented.

A search for evidence on the benefits of proning resulted in little information on a dedicated proning team (PT). Operational questions emerged: How many staff would be required on a team? How many patients would need to be turned? How often? Would turns be planned or emergent? The objectives of our program included (1) creating a team separate from but in tandem with critical care staff, thereby reducing the workload on ICU teams caring for patients with severe ARDS due to COVID-19; (2) standardizing the PP process to minimize turning-related adverse events throughout all ICUs; and (3) ensuring PT members’ personal safety.

As the institution targeted a greater than 100% increase in ICU bed capacity (from 109 to 235 beds) to manage the predicted surge of patients with COVID-19 who would need intensive care, several hundred additional traveling nurses and former ICU nurses from the organization were rapidly trained and redeployed to the ICU environment. With limited PP experience, these newly trained staff nurses and newly formed care teams would greatly benefit from a dedicated PT that could offset the enormous resource burden and allow the nurses to better serve these patients with COVID-19.

After the closure of ambulatory care settings and elective surgical and interventional procedures, a labor pool of staff was formed. These staff members were available to meet any institutional needs. Our focus was selection of staff with expertise in positioning and mobility. We chose a total of 75 operating room nurses, operating room assistants, and outpatient physical therapists from the labor
pool for their knowledge of PP and strong understanding of safe mobilization and positioning. Review of admitting volume data and forecasting from ICU leadership aided us in determining the size of the team to meet patient demand. In 1 week, the PT concept was approved and implemented.

Training and Education

Prone positioning is a complex procedure requiring careful, synchronized coordination. It also has many potential complications. Using the procedure developed by this institution’s ICU clinical nurse specialists, a new curriculum titled “Proning Intubated Patients in the Intensive Care Unit” was developed for the core group selected for redeployment to the PT. Training included a review of the purpose, indications, expected outcomes, and potential complications of PP, a step-by-step video of the procedure, and a refresher on proper technique for donning and doffing personal protective equipment. A 60-minute simulation, led by the critical care clinical nurse specialist, allowed trainees to practice the basic safety steps for manually turning a patient receiving ventilatory support to prone position and back to supine position. The highest priority was placed on staff safety and awareness of the risk for possible adverse patient events. Scenarios included managing adverse events such as inadvertent endotracheal tube or central access catheter removal. The use of pressure-relieving positioning equipment to help mitigate development of pressure injuries due to long proning intervals was also a focused priority.

Team Structure and Team Roles

The PT was available 24/7. There were 2 teams of 4 on both the day and evening shifts, and 1 team of 3 on the night shift. Each PT consisted of a minimum of 1 operating room registered nurse and 1 physical therapist. A home base for this team was established in a vacant space of a hospital department. Within 24 hours, the space was converted to a PT office suite, complete with computers, telephones, and a break area with essentials such as a refrigerator, microwave, and coffee machines. Assignment boards and communication boards were used for answering frequently asked questions and information sharing in real time. Staff were met with a daily inspirational message on the communication board that they began to own and populate themselves.

A resource-nurse role was created to better triage ICU team requests. To maximize efficiency and minimize wait time, the resource nurse carried the pager and made initial contact with the requesting unit, communicating steps that needed to be in place before the team’s arrival. The resource nurse also dispatched new incoming requests to the PTs as they were on an assignment, expediting the care of the next patient. A checklist was used by the team to ensure safety steps were taken before the team arrived, during the maneuver, and before leaving the room (Figure 1). These steps included ensuring a physician order was written to prone the patient, enteral feedings were turned off, necessary supplies were gathered, and the respiratory therapist assigned to the unit was available. A PT lead, also a nurse, held a huddle briefing with the ICU nurse, and the respiratory therapist when available, before the team entered the room. Critical elements such as clinical concerns and known physical limitations of the patient were discussed.

The respiratory therapist and the ICU nurse caring for the patient led the call out for maneuvers for the PT during the turn (Figure 1). Sterile caps were placed on disconnected catheters. Oxygen saturation monitoring remained in place for the entire turn. When the turn was completed and after confirmation that the airway was secure, the monitoring devices were reconnected and pressure-relieving strategies individualized for the patient were implemented. The PT discussed with the ICU team anything they could do differently for next time. After each assignment, in support of a constant state of learning, the PT debriefed at the home base with the other members to share the multiple positioning challenges they faced due to habitus and body mobility, and the creative positioning techniques and devices they used to maximize skin integrity. This sharing of real-time information honed the team’s skills quickly.

Implementation

The determination of when to prone and supine the patient was decided by the ICU teams monitoring the patient’s clinical status, particularly hemodynamic and ventilatory criteria. Proning time ranged from 16 hours to longer than 8 days. The PT’s needs were
quickly identified and supporting tools were developed in the early days of the program, including: daily report sheets for rounding to all ICUs; real-time reports from the electronic medical record identifying all patients with COVID-19 who were receiving ventilatory support and their basic demographics (ie, age, sex, and weight); and an enhanced checklist for preproning, proning, and postproning needs. A wound care specialist reviewed a series of safety reports related to development of pressure injuries in patients who were proned, which led to several pressure-relieving products being added to an existing formulary to enhance pressure redistribution. The newly added products were shared with the PT so they could learn when and how to use them. Additionally, a new procedure for taping endotracheal tubes was determined and shared with the PT, who reminded teams to do it prior to proning a patient. Along with the unit-based clinical nurse specialist, the PT supported diffusion of pressure-injury prevention products and consistently communicated best practices in pressure-injury prevention strategies across the 11 ICUs.

Leadership and PT Cohesiveness

Personal safety of the PT members was 1 of the 3 objectives of the program and a focus of PT leaders. For members of the team, managing the known and perceived risks of physical stressors associated with musculoskeletal injury during proning (ie, pushing, pulling, and lifting the patient)22 was compounded by the challenges of maintaining emotional and moral equilibrium in unprecedented circumstances that was completely out of their sphere of control. Leaders acknowledged this fear of exposure to self and loved ones and contraction of the potentially lethal COVID-19.23

The team was led by a former ICU nurse with a Master’s degree and 2 staff specialists with nursing leadership experience. The PT leadership focused on enculturating teamwork and psychological safety into the workplace and continuous process assessment and improvement. This leadership team was committed to workforce safety as a core value. Physical and psychosocial resiliency required strong leadership to cultivate teamwork and cohesion among team members who were unfamiliar with each other and the care of critically ill patients in the ICU. In accordance with the tenets of Alcoa CEO Paul O’Neill,24 the team was treated with dignity and respect by staff, received the resources they needed to do their job, and were recognized and thanked regularly for their work. To create a “habit of excellence”24 and support an environment for a constant state of learning, the PT carried out huddles at shift change in which staff were empowered to share highlights and changes for improvements. These changes were made in real time and communicated

Figure 1: Prone/supine safety checklist. BP indicates blood pressure; ECG, electrocardiogram; ETT, endotracheal tube; ICU, intensive care unit; RN, registered nurse; RT, respiratory therapist; SCD, sequential compression device.
in a daily email update. Positive comments from the ICU staff and team members was captured on a unit communication board. Team members were celebrated regularly.

**Project Evaluation**

To better prepare for possible mobilization of a PT in the event of a second surge or another pandemic, we felt it was important to understand the perception of the process both from the perspective of PT members as well as the ICU staff using the resource. Two surveys were created and distributed in the final weeks of the PT program. Survey data were collected and managed using Research Electronic Data Capture (REDCap) electronic data capture tools. REDCap is a secure, web-based software platform designed to support data capture for research studies.

The surveys received exempt status from the hospital’s institutional review board. The study posed no risk to participants because all information recorded was deidentified to ensure patient and staff anonymity. Survey participants were verbally informed of the purpose of the survey, the redaction of their personal information, and that their participation in the survey reflected implied consent.

**PT Survey**

The PT survey was designed to gather information on PT members’ experience while participating on the team. It was an 11-item instrument. Respondents answered using a 7-point Likert scale (1, strongly disagree; 2, disagree; 3, somewhat disagree; 4, neutral; 5, somewhat agree; 6, agree; 7, strongly agree). The questions focused on preparedness for the role, leadership support, team-member decision-making and empowerment, personal satisfaction, and overall value of the PT to the ICU staff. There were 3 open-ended questions: (1) Describe your personal perspective of this redeployment, before and after practicing on the prone team; 2) Describe the most satisfying aspect(s) of your role; and 3) Was there anything we could have done to improve your experience with the prone team?

We emailed an invitation flyer with a scanable QR code to access the questionnaire to PT members and also posted the flyer in the PT’s home base. Participation was voluntary and anonymous.

**ICU Survey**

The second survey targeted care teams from the 11 ICUs (6 legacy and 7 pop-up) caring for patients requiring PP. A scanable QR code to access the questionnaire was provided in a flyer and an email invitation was sent to leaders in the ICUs with a request to post and distribute to staff. Participation was voluntary and anonymous. The survey was an 11-item instrument with 2 open-ended questions. Respondents answered using the described 7-point Likert scale, with a focus on timely and efficient response of the PT and their knowledge of the procedure and pressure-relieving devices. The open-ended questions were (1) What was the most satisfying aspect of working with the prone team? and (2) Was there anything we could have done to improve your experience with the prone team?

**Results**

The PT was operational for 8 weeks (Figure 2). The PT successfully turned 147 patients 450 times without loss of any oral or endotracheal airways; arterial, venous, or central catheters; or any tubes and drains (Table 1). The PT completed 228 prone and 211 supine maneuvers. There were 11 requests for assistance moving challenging, nonintubated patients to prone position and head turns on patients with mobility restrictions who were receiving ventilatory support. No team member sustained physical injuries or COVID-19–positive conversions. The size of the team was adjusted as turn demand decreased.

**PT Results**

Of 72 PT members, 54 (75%) responded to the survey (Table 2 and Table 3). Prone team members overwhelmingly reported a positive experience (94% agreed or strongly agreed) being a member of the team (eg, safe, empowered, valued, supported by leadership, personal satisfaction, overall experience). These responses validated leaderships’ effort to encourage teamwork and psychological safety within the team. Most survey takers (80%) responded positively (ie, agreed or strongly agreed) that they felt adequately prepared for the role. There were areas of opportunity as well. Suggestions included a greater focus on familiarizing the team with the intensive care environment; more time simulating the proning maneuver; practicing the maneuver on a
human (vs a mannequin); and scheduling the PT working schedule in a more transparent, fair, and timely manner.

The following examples highlight the PT responses to their experience being redeployed and level of satisfaction being a member of the team:

I was nervous to be in a role [on the PT] that came directly in contact with patients with COVID and was worried about my personal health as well as those in my family. However, after the first few days I felt very comfortable and was so glad to be a member of this outstanding team and proud of the work we did. We were provided with all the resources needed to do our job safely. I felt leadership went above and beyond. .. They were always available to answer questions, listen to our concerns and always open to suggestions. I would be proud to be on this team again if necessary. (PT member, operating room registered nurse)

I still remember the first time I got in the elevator going to prone my first [patient with] COVID…. I was trying to keep my hand from shaking as I held my face shield. After the initial nervousness went away and I started learning more about the process and what we could do to make a difference…. I will always remember the people I met, the impact I made, and the lives I helped save due to my role on the proneing team. What started as one of the most terrifying transitions I’ve ever had to make, ended as one of the most rewarding experiences of my life. (PT member, physical therapist)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Valuea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, mean (SD), range, y</td>
<td>61 (14.3), 27-89</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>104 (71)</td>
</tr>
<tr>
<td>Female</td>
<td>43 (29)</td>
</tr>
<tr>
<td>Ethnic background</td>
<td></td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>60 (41)</td>
</tr>
<tr>
<td>Other</td>
<td>87 (59)</td>
</tr>
<tr>
<td>Admitting diagnosis</td>
<td></td>
</tr>
<tr>
<td>Respiratory failure</td>
<td>137 (95)</td>
</tr>
<tr>
<td>Secondary diagnoses</td>
<td></td>
</tr>
<tr>
<td>Hypertension</td>
<td>63 (43)</td>
</tr>
<tr>
<td>Obesity</td>
<td>59 (40)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Valuea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obesityb</td>
<td></td>
</tr>
<tr>
<td>Mild</td>
<td>29 (49)</td>
</tr>
<tr>
<td>Moderate</td>
<td>16 (27)</td>
</tr>
<tr>
<td>Severe</td>
<td>14 (24)</td>
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</tbody>
</table>

*a Values are no. (%) unless otherwise indicated.

b Determined from body mass index.
ICU Survey Results
Although a response rate could not be calculated because of unclear methodology of survey distribution, more than 200 responses were received from the 11 ICUs. Forty-eight percent of responders used the PT 1 to 3 times (Table 4). Nearly 200 respondents (>90%) agreed or strongly agreed that the PT was an asset for care teams in the ICU (e.g., knowledgeable about turning procedure, timely and efficient with responses to requests, knowledgeable about positioning and pressure-relieving devices). The majority of ordering providers (74%) were more likely to order PP knowing there was a PT (N = 201 responses) (Table 5). This finding was encouraging given reports in the literature of underuse of PP because of misconceptions of higher risk for adverse events during turning that would outweigh the benefit of improved oxygenation.14

The following excerpts highlight the ICU team responses to open-ended questions:

They [PT] relieved a huge work load burden that had been pulling already busy ICU staff. I was deployed to a pop-up ICU working with other ICU nurses who did not have a comfort level with proning, and many general care nurses who were unfamiliar with proning. Prior to the prone team, we had a shift where we proned 8 patients in 10 hours! Having a cohesive team come in to prone/supine was a huge asset. (ICU nurse)

Everyone on the multiple different prone team members were fantastic, receptive, listened and worked together…and had it down to a science of efficiency!

### Table 3: Prone Team Member Experience During the COVID-19 Pandemic

<table>
<thead>
<tr>
<th>Survey Item</th>
<th>No. of Responses (N=54)</th>
<th>Positive Responses, %a</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I was adequately prepared for my role as a prone team member (e.g., training: HealthStream and simulation).</td>
<td>54</td>
<td>79.60</td>
</tr>
<tr>
<td>2. I had what I needed to safely perform the role (e.g., supplies, personal protective equipment review, adequate staffing).</td>
<td>54</td>
<td>94.40</td>
</tr>
<tr>
<td>3. I was included in decision-making about changes to improve the team.</td>
<td>54</td>
<td>98.20</td>
</tr>
<tr>
<td>4. I felt supported in this role by the prone team coordinators/leaders.</td>
<td>54</td>
<td>100.00</td>
</tr>
<tr>
<td>5. I found personal satisfaction with the role.</td>
<td>53</td>
<td>94</td>
</tr>
<tr>
<td>6. I felt that I made a difference in the care of patients with COVID-19.</td>
<td>53</td>
<td>100</td>
</tr>
<tr>
<td>7. I felt the prone team was valued by the staff on the critical care units.</td>
<td>54</td>
<td>98.10</td>
</tr>
<tr>
<td>8. Overall, I would rate my experience as a member of the prone team as positive.</td>
<td>54</td>
<td>98.20</td>
</tr>
</tbody>
</table>

*a Positive responses include both strongly agree and agree responses.

### Table 4: Intensive Care Unit Staff Use of Prone Team During the COVID-19 Pandemic

<table>
<thead>
<tr>
<th>Role</th>
<th>No. of Responders (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered nurse</td>
<td>156 (78)</td>
</tr>
<tr>
<td>Respiratory therapist</td>
<td>20 (10)</td>
</tr>
<tr>
<td>MD and NP/PA/CRNA</td>
<td>23 (11)</td>
</tr>
<tr>
<td>Other</td>
<td>2 (1)</td>
</tr>
<tr>
<td>Total</td>
<td>201</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How many times did you engage with the prone team for a turn prone/supine?</th>
<th>No. of Responses (N=54)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>96 (48)</td>
</tr>
<tr>
<td>4-6</td>
<td>62 (31)</td>
</tr>
<tr>
<td>≥7</td>
<td>43 (21)</td>
</tr>
</tbody>
</table>

Abbreviations: CRNA, certified registered nurse anesthetist; ICU, intensive care unit; MD, medical doctor; NP, nurse practitioner; PA, physician assistant; PT, prone team.

As a respiratory therapist [RT], it was greatly appreciated that everyone was respectful of the RTIs’ main goal to keep that OET [oral endotracheal tube] in... and they ensured that I was comfortable with my hold [on the OET] when we turned on my count… they listened when we needed to stop at different points, switching of [electrocardiogram] leads and [defibrillation] pads, staying after turns assuring [the patient] remained stable. (ICU respiratory therapist)

Wow, that was everyday bravery and clutch help at its best, early or late in the day, always enthusiastic, expert, and collegial. I am grateful for the chance to give this perspective in writing, because I would be hard-pressed to carry it off in person. I have
self-diagnosed PTSG—posttraumatic sincere gratitude. The proning team was one of many big and small innovations of [patient care services], never on national TV or in the [New York] Times, but unforgettable and always much appreciated. (ICU physician)

They provided positioning supplies [pressure-relieving] and the manpower to easily go prone.... They also had the knowledge of things that worked/things that didn’t work.... They answered pages quickly and had an extremely helpful attitude no matter what time of day or night you called them. (ICU advanced practice nurse)

**Discussion**

This rapid deployment of a PT served multiple ICUs in our institution during the local peak of the COVID-19 pandemic to help overcome the increasing workload on our ICU staff. Multiple factors led to the success of this multidisciplinary team, including executive nursing and hospital leadership’s support and a hybrid training model that included simulation, the use of standard checklists, and a model for team cohesion adopted by a dedicated leadership team with a focus on continuous process assessment and improvement.

Composed of operating room nurses, assistants, and physical therapists who were familiar with critically ill patients and positioning maneuvers, the PT ensured that no additional strain was added to clinical nursing and other bedside clinicians who were already overburdened with the surge. In a recent article, Short et al27 supported the importance of familiarity with these skills.

As new prone positioning techniques and other complex care requirements for patients with COVID-19 continue to be developed, the optimal PT size has yet to be determined.28,29 Teams of 4 with at least 1 nurse and 1 physical therapist supporting the unit-based nurse and respiratory therapist were appropriate for our purposes.

When performing this evidence-based intervention, the PT successfully completed 450 maneuvers without physical harm to any team member. No unnecessary harm to patients by way of dislodgement of endotracheal airway tubes, arterial and central venous monitoring catheters, and drainage catheters occurred. Doussot et al28 reported 8.8% position-related complications and Short et al27 reported catheter dislodgement in 1 patient. Our outcomes stand out from those of other colleagues at facilities with dedicated PTs, in part because of the comprehensive training and post-turn debriefings that were conducted, as well as leadership enculturation of a habit of excellence24; staff were treated with respect, given adequate resources, and shown regular appreciation for their efforts. Hodgson et al15 determined programmatic success hinged on leadership support to enculturate a team behavior.

The value of this program was fully appreciated through survey feedback. The ICU staff overwhelmingly expressed appreciation for the PT having implemented this lifesaving maneuver for our most acute patients. Prone team members articulated the deep personal value of being part of this inaugural team. Initial fear for self and family transformed into feelings of pride and satisfaction in being a part of something bigger than the individual, to be a part of something so impactful to their patients, their peers, and their community.

### Table 5: Intensive Care Unit Staff Perceptions of a Prone Team During COVID-19 Pandemic

<table>
<thead>
<tr>
<th>Staff Perception Item</th>
<th>No. of Responses</th>
<th>Positive Responses, %&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Did you find the prone team program an asset for care teams caring for patients with COVID-19 (as a clinician, as a unit, for the organization)?</td>
<td>201</td>
<td>99.5</td>
</tr>
<tr>
<td>2. The prone team response was timely and efficient.</td>
<td>201</td>
<td>94.0</td>
</tr>
<tr>
<td>3. The prone team members were knowledgeable about the turning procedure.</td>
<td>201</td>
<td>90.0</td>
</tr>
<tr>
<td>4. The prone team members were knowledgeable about positioning and pressure-relieving devices.</td>
<td>201</td>
<td>91.0</td>
</tr>
<tr>
<td>5. Were you more apt to place an order for proning as a recruitment effort knowing there was a prone team? (for MD and NP/PA/CRNA only)</td>
<td>23</td>
<td>74.0</td>
</tr>
</tbody>
</table>

Abbreviations: CRNA, certified registered nurse anesthetist; MD, medical doctor; NP, nurse practitioner; PA, physician assistant.

<sup>a</sup>Positive responses include both strongly agree and agree responses.
experience brought a level of camaraderie that had not been felt before. The American Association of Critical-Care Nurses asserts that institutions must implement resources to mitigate the harmful effect of emotional unease during a crisis.\textsuperscript{23} The role of strong leadership is a primary component of the success of the team and was important for the team’s emotional and psychological health during this challenging time.

We hope the findings of this study provide a framework for institutions considering the implementation of a PT by highlighting the importance of balancing the needs of patients with the overall psychosocial health of the staff caring for them. In emerging literature on patients with moderate to severe ARDS due to COVID-19, researchers report an association between PP and improved physiologic parameters and reduced mortality rate.\textsuperscript{30} More research is needed to examine the long-term benefits of PP for patients with COVID-19.

**Practice Implications**

We felt that with the possibility of a second surge, it was critical for us to review the program and identify opportunities for improvement. In accordance with the institution’s predictive modeling, consideration should be given to deploy the PT sooner, using the decommissioning plan our institution used to ramp up as patient volume increased. Future preparations for a PT should include enhancing team members’ understanding of the ICU environment and the clinical condition of the patients. Additional training should include the primary responsibilities of the team, as well as reinforcing and role modeling the use of pressure-injury prevention strategies, advocating for PT use by ICU staff, raising awareness, and offering PT support for head turns every 2 hours. With future challenges to staffing models and an increasing volume of admitted patients with COVID-19 who are not receiving ventilatory support but who might benefit from the prone maneuver, deploying additional 2-person PTs should be considered. There is opportunity for the team to acquire knowledge of and expertise performing alternative turning maneuvers and incorporating ceiling lifts for patients of large habitus.

Crisis planning should include the consideration of dedicated teams to support unique patient care needs. During noncrisis times, the concept of a dedicated team could be extrapolated for such well-known needs as a mobility team. Hospital-wide, dedicated team members and frontline caregivers can feel supported and valued with this model.

**Conclusion**

The implementation of a PT demonstrated novel support for critically ill patients and their caregivers during the initial surge of the COVID-19 pandemic. Access to an efficient and standardized process for managing proning improved predictability and safety for patients being turned. A trained, dedicated PT ensured safety of patients and staff. Staff felt supported, empowered, and valued for their roles as members of the PT. Intensive care unit staff were satisfied with using the PT.

**ACKNOWLEDGMENTS**

The authors thank the Massachusetts General Hospital (MGH) Nursing and Patient Care Services Executive Leadership Team for its sponsorship of the program and all the members of the MGH prone team for their commitment to making this program one of the great success stories of the 2020 pandemic. The authors specially thank Sandra Thomas and Melanie Roth for their administrative and editing support and Lisa Liang Philpotts, Treadwell Library Knowledge Specialist, for sharing her guidance and expansive knowledge about researching pertinent articles in the literature.

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