Ask the Experts

Providing Evidence-Based Practice During the COVID-19 Pandemic

Q How do we provide evidence-based practice during the coronavirus disease 2019 (COVID-19) pandemic?

A Mary Beth Flynn Makic, PhD, RN, CCNS, CCRN-K, replies:

In some ways the COVID-19 pandemic is uncharted water in health care, yet in other ways it is not. Ensuring that we seek and rely on credible sources to guide nursing care during a pandemic is essential to combat fear and hysteria.[1] Evidence is evolving quickly during this time, but we must rely on evidence that is based in science to effectively treat patients and keep health care professionals safe. Evidence is available to guide essential elements of care that nurses and other health care professionals deliver. As acute and critical care nurses, we know how to treat acute respiratory disorders, safely practice isolation procedures, manage the safe delivery of complex medication protocols, communicate with patients and families to ensure they understand the exceptional care that we are providing, and deliver emotional comfort. Ensuring we use current best evidence to guide us in caring for patients with COVID-19 requires us to pause briefly and appreciate that we have available to us—even during a pandemic—evidence to guide elements of nursing care and practice.

Evidence-based practice requires 3 elements: science (evidence), clinician expertise, and patient preference. The challenges we face during a pandemic are 3-fold: knowledge of the infection and transmission, resources (health care workforce, personal protective equipment, and hospital beds), and treatment options.[2-4] In this COVID-19 pandemic, the science of COVID-19 infection, transmission, and treatment is moving quickly, though for many not quickly enough. We should rely on expert knowledge from our public health and infectious disease colleagues to lead the way. As we struggle with shortages of supplies and human resources, we must innovate; such innovation needs to emerge from what we know (current evidence) coupled with clinical expertise so that we can deliver safe care with confidence.

The greatest challenges arise in treating the most acutely ill patients with COVID-19 who experience viral interstitial pneumonia leading to hypoxemic respiratory failure and acute respiratory distress syndrome (ARDS). Research estimates that 17% of patients who experience ARDS have an associated mortality rate of 40%.[5,6] Acute and critical care nurses have for many years been at the forefront in caring for patients with ARDS, and although COVID-19 is the current etiology leading to ARDS, this dynamic does not change the need to apply best evidence to guide nursing interventions.

Practice guidelines published in 2017 reinforce that management of ARDS should include low tidal volume ventilation (tidal volume 4-8 mL/kg), plateau pressures less than 30 cm H_2O, and high positive end-expiratory pressure.[7-9] For patients with moderate to severe ARDS, defined as an arterial partial pressure of oxygen-to-fraction of inspired oxygen ratio of 150 mm Hg or less, the guidelines suggest placing

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doi:https://doi.org/10.4037/ccn2020908

the patient in a prone position for 12-16 hours.[7-9] In a meta-analysis of 6 randomized controlled trials, Goligher et al[10] recently found that placing a patient with ARDS in the prone position improved oxygenation, reduced the incidence and severity of ventilator-induced lung injuries, and reduced mortality.

Critical care nurses' knowledge and skills in achieving successful pronation therapy and optimal patient safety are central to the success of this intervention. We must ensure that we follow evidence-based prone positioning protocols when caring for patients with COVID-19 and ARDS. Although the prone position optimizes ventilation of the dorsal regions of the lungs, thereby reducing intrapulmonary shunting and enabling more effective oxygenation, the nurse must evaluate additional care considerations to prevent secondary harm. Pronation protocols also address protecting the patient's eyes and skin; avoiding dislodgment of drains and tubes; providing enteral nutrition; dealing with pain, sedation, and the patient's emotional needs; and monitoring hemodynamic and respiratory parameters. Most importantly, the evidence speaks to the need for coordinated teamwork among well-trained clinicians to safely implement pronation therapy.[7-9] Often the work associated with placing a patient in the prone position is a barrier. Acute and critical care nurses can, however, advocate for the intervention, as the evidence demonstrates improved patient mortality when prone positioning is implemented early.[7,10] Critical care nurses who embrace best evidence to guide their practice can and do positively impact patient outcomes—even during a pandemic.

As clinical practice questions arise during this pandemic, we must seek answers from reliable resources. Will we always find highly definitive and scientifically proven answers at this moment? No.[1] We should, however, ask questions that will help us determine whether to rely on the rapidly evolving evidence: Was the evidence generated by a reliable, trustworthy, clinical practice–related source? Is the information driven by experts? What time lines and resource restraints influenced the evidence recommendation and thus should be considered in weighing the recommendation(s)?[1] Nurses should ask these 3 questions as they review various forms of COVID-19–related resources, websites, podcasts, and social media. Our search for evidence to answer our questions should start with reputable sources.

As we cope with the supply and human resource shortages I already mentioned, we must rely on recommendations from experts in the field to keep ourselves safe and resilient. Resist the power of social media, which has further complicated the dissemination of credible evidence and practice guidance. Instead, rely on the principles of best evidence to guide your practice—this is not the time to abandon this standard. Science from prior epidemic and pandemic events (eg, the severe acute respiratory syndrome–associated coronavirus pandemic of 2003, the West Nile meningitis epidemic of 2009, the swine influenza H1N1 pandemic of 2009, the Middle East respiratory syndrome coronavirus epidemic of 2012, and the Ebola epidemic of 2014) can help guide our practice now.[2] Collaborate with your colleagues locally and nationally to identify current best practices as you navigate isolation protocols and supply shortages. National nursing, physician, and pharmacy organizations are openly sharing lessons learned and protocol resources to assist clinicians in caring for patients with COVID-19. Many of these recommendations provide evidence-based resources that support assurance in our delivery of interventions.

In this unprecedented time, as the COVID-19 pandemic continues, it is essential that innovations to overcome the current challenges we face are wed to evidence. Florence Nightingale *used evidence* to demonstrate the impact of nursing care. She once said, "How very little can be done under the spirit of fear."[11] Continuing to ask clinical questions and seek evidence-based answers both supports our professional commitment to provide exceptional care with confidence and allows us as acute and critical care nurses to make a critical contribution as we overcome this health care crisis. You know how to care for acute and critically ill patients. Be confident in your knowledge, demonstrate your commitment to acquiring new knowledge, and share all that you know. CCN

Financial Disclosures
None reported.

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Additional Resources

American Association of Critical Care Nurses. Coronavirus (COVID-19) update. https://www.aacn.org/clinical-resources/covid-19
American Nurses Association. COVID-19 resource center. https://www.nursingworld.org/practice-policy/work-environment/health-safety/disaster-preparedness/coronavirus/
American Society of PeriAnesthesia Nurses. COVID-19 toolkit for the perianesthesia nurse. https://www.aspan.org/Portals/6/docs/COVID19_Toolkit.pdf?ver=2020-03-25-140650-257
Helene Fuld Health Trust National Institute for Evidence-based Practice in Nursing and Healthcare. Covid-19 resources. https://fuld.nursing.osu.edu/covid19resources
JAMA Network. Coronavirus disease 2019 (COVID). https://jamanetwork.com/journals/jama/pages/coronavirus-alert
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World Health Organization. Coronavirus disease (COVID-19) advice for the public: myth busters. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/myth-busters

Ask the Experts

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