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Two SRNAs Train ICU Nurses on Using Anesthesia Machines as Ventilators

Two student registered nurse anesthetists (SRNAs) from the University of Iowa are training other healthcare workers on an innovative solution that will help save lives during the COVID-19 pandemic.

Sarah Rohde and Rachel Westernik, both second-year students in the university's nurse anesthesia program, are currently working on a clinical rotation at Spencer Hospital in Spencer, Iowa. In addition to their normal work, they're training ICU nurses and respiratory therapists on how to adapt anesthesia machines for use as ventilators if needed.

Rohde and Westernik's backgrounds in critical care nursing and airway management give them the necessary skills to provide crucial support to their hospital in caring for COVID-19 patients. Working in a rural hospital, they play an important role—Certified Registered Nurse Anesthetists (CRNAs) are the primary providers of anesthesia at 88 of Iowa's 117 community hospitals.

"CRNAs and SRNAs are in such a good position to be doing this type of training because we're designated to be leaders in healthcare," Westernik said.

When their clinical coordinator, Dale Kroll, CRNA, asked them if they would be up to the task of training others on how to adapt their anesthesia machines to ventilators for critically ill patients, Rohde and Westernik dove into the research. Using guidelines from the anesthesia machine's manufacturer, they developed a comprehensive presentation and training sessions that included hands-on demonstration for other healthcare workers preparing to fight COVID-19. They subsequently created a shorter video version for staff reference in the future.

"We know how to work the ventilator from our training," Rohde said. "We know the ins and outs from the immense amount of time our teachers and preceptors have spent with us on it."

Since they work at a rural hospital, the supply of ventilators is limited. With many COVID-19 patients requiring mechanical ventilation, being able to use anesthesia machines as ventilators in an emergency will help save lives. The FDA recently approved anesthesia machines for this emergency use.

In their training sessions, Westernik and Rohde took the ICU nurses and respiratory therapists through a step-by-step simulation. They focused on the basics of the machines, but also the emergency functions, Rohde said. Their demonstration included how to perform a daily machine check, flushing and purging the machine of residual gases, how to turn up the oxygen, and troubleshooting alarms, just to name a few of the topics covered.

"Essentially these anesthesia machines can be run as ventilators up to a certain point, but they just need a little refinement because they're not meant for long-term use," Westernik said.

Educating respiratory therapists and ICU nurses now is key to fighting the pandemic. While their hospital hasn't had a COVID-positive patient yet, Westernik said, "we already have community spread here. The best way to combat this disease is to be as

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prepared as possible from the forefront. If we can do all this work now and do all the research now, it's only going to benefit us in the future."

Their training in their anesthesia program, along with their backgrounds as critical care nurses, means Rohde and Westernik are prepared to be on the front lines when the first COVID-positive patient arrives at their hospital.

"Having the nursing background has helped me immensely," said Westernik. "As nurses, we're a special breed in that we're born into empathy. We want to do what's best for these patients, and we want to disseminate as much information as we can and do all the work that we can in order to help others prepare." ∎