Public release date: 20-May-2007

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American Thoracic Society

Study finds 'wake up and breathe' strategy allows patients to come off ventilator sooner

ATS 2007, SAN FRANCISCO a new study of intensive care unit patients who are breathing with the help of a mechanical ventilator has found that a two-step sedation and ventilator weaning protocol called a wake up and breathe‧strategy helps patients come off the ventilator faster so that they can be discharged from the ICU and hospital more quickly. The study is being presented at the American Thoracic Society 2007 International Conference in San Francisco.

In average, patients managed with the intervention spent four more days alive and out of the ICU and out of the hospital than those managed in the control group," explained senior author Wes Ely, M.D., M.P.H., Professor of Medicine at Vanderbilt University and Associate Director of the Geriatric Research Education and Clinic Center.

In the first step of the protocol, the patient's sedation is turned off, also known as a spontaneous awakening trial. "Almost all patients on a ventilator in the ICU receive sedating medications that keep them comfortable or even comatose," says the study's first author, Timothy Girard, M.D., M.S.C.I., also of the Vanderbilt University School of Medicine in Nashville. "The spontaneous awakening trial (SAT) allows them to wake up, so we can find out if they are ready to proceed without sedation. If the patient is uncomfortable, we restart sedation, but a lot of patients are comfortable enough to proceed with the next step in the protocol."

This second step involves allowing the patient to try breathing on their own without substantial help from the ventilator, called a spontaneous breathing trial. If the patient shows signs they are unable to breathe on their own, they are immediately placed back on full mechanical ventilation.

The multicenter study included 335 critically ill patients in four hospitals who were receiving mechanical ventilation. Patients managed with the combined wake up and breathe protocol (the SAT + SBT group) were compared with patients who were managed with daily spontaneous breathing trials and usual sedation practices (the SBT group). This group did not undergo

formal awakening trials; their sedation was managed by their ICU doctors and nurses on a case-by-case basis.

The patients in the SAT+SBT group were able to breathe without the ventilator's assistance an average of three days more and were discharged from the ICU and hospital an average of four days earlier than the SBT group. During the 28-day study, 47 patients in the SAT+SBT group died compared with 58 in the SBT group.

"Numbers on the monitor in the ICU aren't very good at predicting if a patient is ready to come off a ventilator," Dr. Girard says. "In the past, the process of turning sedation drugs off has been done separately from turning off the ventilator. Our study proved our hypothesis that if we connect these two processes, it will safely allow patients to come off the ventilator earlier."

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