

# **Hospital Initiative Improves Patient Outcomes**

## *Ventilator-associated pneumonia reduced by 12%*

ROME (May 2004)– Rome Memorial Hospital has implemented an evidence-based best practice model that has resulted in better outcomes for patients who need a ventilator to help them breath, announced Gale Fellowes, M.D., vice president of medical affairs.

The initiative reduced the incidence of ventilator-associated pneumonia and shortened the amount of time patients need ventilator assistance.

“In the Intensive Care Unit, patients on a ventilator are susceptible to contracting potentially fatal pneumonia,” explained Lorraine Baldwin, director of respiratory therapy. “When a patient is intubated, the endotracheal tube bypasses many of the body’s natural defenses making it easier for pneumonia to develop.”

According to a study prepared for the Agency for Healthcare Research and Quality, ventilator-associated pneumonia is the leading cause of morbidity and mortality in the ICU. Nationally, an estimated 30% of patients that acquire pneumonia while on a ventilator die. The number jumps to about 50 percent for most severe cases.

In late 2002, a multidisciplinary team was formed to research and develop strategies to better manage the hospital’s ventilator patients. The team consisted of physicians, nurses, respiratory therapists, pharmacists, dietitians, physical therapists, and nurses from infection control, education and quality management.

According to Critical Care Coordinator Richard Simpson, R.N., the team analyzed national benchmarking and hospital data and conducted a literature search to assemble evidence-based best practices. “The model that we implemented mirrors the protocol the Joint Commission on Accreditation of Healthcare Organizations is poised to adopt in 2005,” he said. “So, we are almost two years ahead of the curve.”

“As part of the initiative, we’ve revised our admission protocol for ventilator patients,” said Critical Care Services Director Sandra Richardson, R.N. “This protocol ensures we use the latest evidence-based practice guidelines for caring for our patients. In addition, team members perform daily rounds together to evaluate ventilator patients and suggest modifications in the care plan within the scope of each professional’s expertise.”

The adopted practice model attained a 12% reduction in ventilator-related pneumonia between 2002 and 2003, according to Dr. Fellowes.

“The more aggressive team management of ventilator patients has also reduced the length of time a patient has to have breathing assistance by 2.4 days,” she said. “We’ve been able to reduce the length of time patients are on a ventilator, without increasing the total number of days they spend in the hospital. On average, patients can get back to the comfort of their own home almost two days sooner.”

According to Baldwin, the success of the initiative is due to the consistent utilization of the combined best practices. “On its own, each of the individual practices has limited impact,” she said. “When combined, they produce dramatic results.”

Baldwin said some of the strategies used to reduce ventilator-related complications include:

- placing the patient in a semi-recumbent position to reduce the chance of aspirating gastric secretions;
- providing continuous aspiration of subglottic secretions in long-term vent patients to prevent the pooling of contaminated oropharyngeal secretions above the endotracheal tube cuff;
- implementing equipment with valves to minimize the breaks into the ventilator circuit where bacteria could enter the system;
- providing early identification and intervention for nutritional support and physical therapy;
- implementing weaning and sedation vacation protocols to help patients incrementally reduce their dependence on the ventilator; and
- prescribing medications to prevent peptic ulcers and blood clots that can develop in patients who are immobilized for long periods of time.

“We are striving to achieve the best possible medical results through research-based initiatives that evaluate the effectiveness of our treatment protocols,” said Dr. Fellowes.