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**LARGEST HOSPITAL SYSTEM IN TEXAS AND LOCAL EMS LAUNCH
UNIQUE PARTNERSHIP TO PROVIDE NON-INVASIVE INTERVENTION IN
CONGESTIVE HEART FAILURE PATIENTS**

*Memorial Hermann Healthcare System and Houston Fire Department EMS
Collaboration to Serve as a Model for the Nation*

Houston, May 24, 2007 –Memorial Hermann Healthcare System and the City of Houston Fire Department Emergency Medical Services today announced a unique partnership designed to decrease the need for unnecessary endotracheal intubation in patients with congestive heart failure (CHF) in a first responder setting. This partnership marks the first time that a hospital system and EMS department have worked together to reach patients outside the hospital in emergency care situations where every moment counts.

Nearly 53,000 deaths occurred in the U.S. in 2004 from CHF, a life-threatening condition in which the heart can no longer pump enough blood to the rest of the body resulting in fluid back up in the lungs. Traditionally, paramedics and emergency medical technicians perform endotracheal intubation to relieve the pressure. When intubation occurs, the body becomes susceptible to numerous complications and infections including ventilated associated pneumonia (VAP).

Using Continuous Positive Airway Pressure (CPAP) machines supplied by Memorial Hermann, HFD EMS now has an option other than intubation to relieve fluid buildup. Using CPAP will result in numerous benefits for patients and hospitals including reduced exposures to infections, shortened hospital stays, as well as decreased costs.

Partnership discussions began nearly two years ago when representatives from Memorial Hermann approached HFD EMS officials to discuss an innovative strategy to help save lives and reduce complications often associated with intubation. “We are excited to partner with HFD EMS to bring this life-saving program to the Houston community,” said Tom Flanagan, chief operating officer for Memorial Hermann-Texas Medical Center. “By providing EMS divisions with additional tools and options, we believe that we can dramatically improve patient outcomes. It is our hope that other hospitals and hospital systems throughout the nation will follow our lead and begin to form partnerships of their own.”

Memorial Hermann provided HFD’s EMS with 51 CPAP machines and 900 circuits, as well as provided the training for paramedics and emergency medical technicians in the use of CPAP. Each of the nine Memorial Hermann emergency centers will use identical equipment. When patients arrive on CPAP, their treatment will be consistent.

Launched May 1, the use of CPAP in pre-hospital settings has already proven to be successful. Of 23 patients admitted to Memorial Hermann emergency centers, only four were intubated, an 83 percent success rate. While Memorial Hermann is the first to employ this treatment, the hope is that other hospitals will follow suit.

EMS Physician Director and Public Health Authority Dr. David E. Persse said, "Our partnership with area hospitals reflects the Houston Fire Department's commitment to provide the best medical care. With the ability to quickly improve a patient's breathing, Pre-Hospital CPAP can potentially improve patient outcome and reduce the need to be artificially ventilated."

CPAP, also referred to as non-invasive positive pressure ventilation (NIPPV), which utilizes pressure and oxygen to open the airways and forces the fluid back out of the lungs, has successfully been performed within a hospital setting since the early 1990s. The patient populations that have benefited from NIPPV over the years include those

with congestive heart failure and chronic obstructed pulmonary disease as well as those on dialysis who become fluid overloaded.

In addition to HFD EMS, Memorial Hermann has partnered with Montgomery County Hospital District, West University Fire and EMS and West Harris County EMS. Other agencies in training are City of Humble Fire and EMS and Atascocita Fire and EMS.

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About the Memorial Hermann System

An integrated health system, Memorial Hermann is known for world-class clinical expertise, patient-centered care, leading edge technology, and innovation. The system, with its exceptional medical staff and 19,000 employees, serves southeast Texas and the greater Houston community. Memorial Hermann's 16 hospitals include three hospitals in the Texas Medical Center, two long-term care facilities, three heart institute locations and eight suburban hospitals. The system also operates numerous imaging, sports medicine and rehabilitation, and surgery centers, a Wellness Center, a chemical dependency treatment center, a home health agency, a retirement community and a nursing home. To learn more, visit www.memorialhermann.org or call 713-222-CARE.

Memorial Hermann and City of Houston Fire Department Pre-Hospital CPAP Program Fact Sheet

- Memorial Hermann Healthcare System and City of Houston Fire Department Emergency Medical Services have formed a first-ever partnership designed to decrease the need for endotracheal intubation in patients with congestive heart failure (CHF) in a first responder setting.
- Continuous Positive Airway Pressure (CPAP) is a safe and effective method of treating patients with acute congestive heart failure, where fluid accumulates in their lungs, causing severe respiratory and cardiac distress.
- Benefits include shortened hospital stays, reduced need for intubation and exposures to infections as well as decreased costs for patients and hospitals.
- Memorial Hermann is providing HFD's EMS division with 51 CPAP machines along with 900 circuits as well as training paramedics and emergency medical technicians in the use of CPAP.
- 52,828 deaths occurred in 2004 from congestive heart failure (CHF) in the U.S. Many of these can be prevented with early, aggressive intervention.
- Nearly \$26 billion was spent on CHF and related problems in 2004.
- CHF most often is a right-sided heart failure that results in decreased cardiac output. Fluid backs up and finds its way into the lungs resulting in a shortage of oxygen in the body.
- Traditionally, paramedics and emergency medical technicians perform endotracheal intubation to relieve the pressure, leaving the body susceptible to infections.
- 54 percent of ventilated patients with ventilator-associated pneumonia (VAP), a common infection, die versus 27 percent of ventilated patients without VAP.
- A single VAP treatment costs a minimum of \$56,000.
- At Memorial Hermann–Texas Medical Center the first 24 hours of mechanical ventilation costs approximately \$8,000. The circuit for a CPAP device costs about \$35.
- Approximately 1,500 patients are intubated in the field per year and approximately 300 get extubated in less than 24 hours at Memorial Hermann-Texas Medical Center.
- If just 100 of those 300 do not get intubated, there is a potential gross decrease in ventilation costs of approximately \$800,000.
- Additional EMS partners include Montgomery County Hospital District, West University Fire and EMS and West Harris County EMS. Agencies in training are City of Humble Fire and EMS and Atascocita Fire and EMS.
- Out of 23 patients admitted to Memorial Hermann emergency care centers only four were intubated, resulting in an 83 percent success rate and minimum cost savings of \$152,000.