

Touching Base™



Autumn 2005

MedFlight, CCEMS and Various Ohio Partners Reach Out to Katrina Victims

By Todd Bailey, MBA, Director of Business Development



Todd Bailey



MedFlight Nurse Rusty Robinson surveys the damage in New Orleans, LA.

INSIDE THIS ISSUE

- 1 Katrina Relief
- 2 On the Cutting Edge
- 3 Zero Errors of Consequence
- 3 MedFlight Lecture Series
- 4 Conquering the Night
- 5 The Controversy Continues: Airway Management
- 6 Partners For Life!
- 6 MedFlight Heroes Return

There's an old saying, "When the going get's tough, the tough get going!" Nothing was truer when medical professionals at MedFlight, CCEMS (Coshocton County Emergency Services), and various other Ohio partners received the call for help after Hurricane Katrina struck.

As part of the initial relief effort, Acadian Ambulance Services in Louisiana contacted MedFlight for help. MedFlight offered a medical helicopter, however, at that time the Southern Louisiana skies were filled with military and civilian aircraft. Regional authorities instead asked that MedFlight dispatch MICUs (Mobile Intensive Care Units).

MedFlight's Risk Manager Theresa Stir acted as Disaster Response Coordinator for the company. She coordinated a joint relief effort with Columbus Children's Hospital's Neonatal team for any needed fixed-wing transports, and a ground-based effort with Ashtabula-based EMS companies, University AirCare and Alliance Mobile Care of Cincinnati, in addition to MedFlight's efforts.

MedFlight Administration prepared the crews, worked with in- and out-of-state agencies, and made sure all details for such a venture were prepared. According to Stir, "We had less than 24 hours to make this happen, yet we wanted to

make sure that all the proper things were done for the best outcome possible."

On another front, CCEMS (Coshocton County Emergency Medical Services) Director Mike Perkins worked with FEMA officials to send a crew to the region. According to Perkins, "We were preparing for anything and everything once we got down there and we witnessed just that. It's one thing to treat the injured and sick. It's another to treat patients in wet, dirty and traumatic environmental circumstances. Regardless, the crew did a great job, working numerous hours in these conditions."

MedFlight prepared two MICUs for departure to Louisiana at 7:00 p.m. on September 8, with 10 MedFlight critical care team members, consisting of paramedics and nurses. The team included Ty Stewart, Mike Cooper, Kenny Hoffman, Streeter Clow, Jim Davis, Matt Moulton, Rusty Robinson, Brian Linn, Mike McNamara and Troy Elmore.

Two Ashtabula EMS agencies through Community Care Ambulance joined the MedFlight team to depart from Columbus, which then joined Alliance Mobile Care of Cincinnati crew members as a combined Ohio medical relief team. The Ohio convoy was met in Northern Georgia by

continued on page 2

**About MedFlight of Ohio
and Touching Base**

MedFlight's mission is to transport the critically ill.

MedFlight of Ohio publishes *Touching Base* twice each year. We are a private, not-for-profit company made possible by our consortium hospitals: Grant/Riverside Methodist Hospitals (owner), The Ohio State University Medical Center (owner), and Akron General Medical Center (sponsor).

**MedFlight of Ohio
Executive Staff**

Rod Crane
President and
Chief Executive Officer

Chuck Ansley
Chief Financial Officer

Tom Allenstein
Chief Clinical Officer

Howard Werman, MD
Medical Director

Have an idea for a story?

Contact Samantha Kennedy at (614) 734-8026 or skennedy@medflight.com with comments, story ideas or items for publication. All submissions are subject to editing.

MedFlight of Ohio
2827 W. Dublin Granville Rd.
Columbus, OH 43235
(614) 734-8001
www.medflight.com

Copyright 2005 MedFlight of Ohio. All rights reserved. All information published in *Touching Base* is protected by copyright law and should not be duplicated in any form without permission.



Inside Operations



Chuck Boak

On the Cutting Edge

By Chuck Boak, RN CCRN BSN CMTE, Director of Education

MedFlight of Ohio has purchased the METI Emergency Care Simulator (ECS) training mannequin. This emergency care simulator provides advanced training in Trauma and Critical patient care and represents the latest simulation technology for training clinicians at all levels of medical education.

Sophisticated mathematical models of human physiology and pharmacology automatically determine the mannequin's response to user actions and interventions. With dynamic coupling of the cardiovascular, pulmonary and pharmacological models, along with the physical embodiment of the mannequin, the ECS allows for the complete characterization of an adult patient.

The MedFlight Education Center plans to open its virtual lab in January 2006. The ECS will initially be used to train in-house medical crews on cutting edge technology. The future plan is to have the virtual lab open to outside EMS and other agencies.



the METI Emergency Care Simulator (ECS) mannequin

The Education Center would like to incorporate multiple modules of training in the virtual lab. Once the lab is operational, brochures will be sent out to EMS agencies indicating schedule times and available training.

MedFlight, CCEMS and Various Ohio Partners Reach Out to Katrina Victims

continued from cover



MedFlight and Community Care Ambulance team members prior to leaving for Louisiana

FEMA escort services to lead them into the disaster zone in Lafayette.

According to MedFlight Nurse and relief volunteer Kenny Hoffman, "It was a phenomenal display of selfless and heartfelt compassion by everyone. In less than a few hours of receiving the emergency mission request, these people stepped up to the plate. Many of these folks had to leave job commitments and families without knowing what to expect. I couldn't be more proud of my colleagues and others who stood by us, covering work shifts or providing other forms of support!"

In addition, MedFlight had been requested by Dr. Richard Nelson (Emergency Physician) at OSU to consider the option of transporting physicians and other medical staff (solicited

by COTS—Central Ohio Trauma Services) by MedFlight's medical airplane. According to one MedFlight representative, "All support options were open. It was the right thing to do!"

This special mission was an overwhelming and humbling display of the human heart. As unfortunate as the situation was, the MedFlight, CCEMS, and other Ohio-based partners were there to help.

Partners for Life!

Safety

Vision Zero: Zero Errors of Consequence

By Tom Allenstein, RN, Chief Clinical Officer



Tom Allenstein

In October 1997, the Road Traffic Safety Bill founded on Vision Zero was passed by a large majority in the Swedish parliament. This bill was a direct attempt by the Swedish government to reduce the rising accident rate on Sweden's highways. The goal of Vision Zero is that eventually no one will be killed or seriously injured when moving with the road transport system. (Ministry of Transport and Communications, 1997)

At the Association of Air Medical Services (AAMS) Spring Conference this past March in Washington DC, the AAMS Board of Directors and the Foundation for Air Medical Transport and Research (FARE) adopted the Vision Zero

philosophy as a safety initiative within the air medical community. With the rise in air medical accidents and increasing scrutiny by the media, it was determined to move forward with a program and philosophy of increasing awareness and education intended to reach everyone within the transport community.

Too often it is easy to accept accidents we read about and say they will not happen to us because they occurred in some other geographic area or with a program with a questionable safety culture. The truth of the matter is that it can happen to any one of us, and it is all of our responsibilities to commit to the Vision Zero program of Zero Errors of Consequence with no fatal crashes or serious injuries.

2006 MedFlight Lecture Series

The Lecture Series is offered to MedFlight partners, EMS and healthcare workers. The series ranges from pediatrics to adults, medical to trauma. Each lecture will last 2 hours and will be awarded 2.0 CEU's. If you would like to see other topics please email them to Chuck Boak, Education Director, at cboak@medflight.com or call 614.734.8022.

All lectures series will run the first Wednesday of the month at 2:00 p.m., at MedFlight (Columbus base).

December 7, 2005	Documentation: Medical/legal Issues
January 4, 2006	Pediatric topic: Managing the intubated pediatric patient
March 1, 2006	Pediatric topic: Pediatric abdominal trauma
May 3, 2006	Pediatric topic: Pediatric pain management
July 5, 2006	Pediatric topic: Pediatric fever... what's important... what's not
September 6, 2006	Pediatric topic: Pediatric asthma
November 1, 2006	Pediatric topic: Pediatric dysrhythmias

MedFlight is promoting the Vision Zero message and actively pursuing several initiatives to back up the safety initiative. Some items that MedFlight is currently engaged in include:

1. Working with Ohio Association of Critical Care Transport to put on a safety focused conference next spring to include not only air but also ground safety lectures.
2. Partnering with other air medical providers to put on Air Medical Resource Management (AMRM) courses.
3. Recently hosted an Emergency Vehicle Operators Course (EVOC) to train instructors.
4. Developed MedFlight "Be Safe" wristbands to remind people to think safety at all times.
5. Donated money to FARE to support research and education in the air medical and critical care environments.

Safety is a responsibility of everyone and it always begins at home. MedFlight is continuing to investigate and improve our own internal safety culture. Some items of note that MedFlight is doing include:

1. We recently received CAMTS full accreditation.
2. We are in the process of implementing GPS tracking technology on all of our helicopters and MICU vehicles.
3. We will be implementing an online debriefing system to track and provide feedback on any safety concerns following a transport.
4. We will be implementing Night Vision Goggles (NVG) in one rotor-wing aircraft in early 2006.

As you can see, MedFlight is committed to improve safety, but we cannot do it by ourselves. It takes all of us working together in order to achieve the goal of having no seriously injured or killed EMS providers. Only by working together can we achieve Vision Zero: Zero Errors of Consequence. If you would like to know more about Vision Zero please contact MedFlight or you can see what is being done on the national front by logging onto the AAMS website at <http://visionzero.aams.org>.

Conquering the Night

By Tom Allenstein, RN, Chief Clinical Officer



Tom Allenstein

MedFlight will begin operations with Night Vision Goggles (NVG) during the first quarter of 2006. Deployment will be a multi-year process. Our McConnellsville helicopter program will be the first to conduct night operations utilizing NVG.

The Aeromedical industry has experienced an increase in accidents in recent years. Therefore, the industry has undertaken initiatives to improve statistical data collection. Presently, data collection is not complete enough to fully understand the problems.

One theory for the increase in helicopter accidents suggests that rapid growth of air medical helicopters throughout the country could be causing a dynamic for more incidents. In 1991, there were approximately 225 medical helicopters dedicated to air medical services. Today the number is in excess of 650.¹

Another theory suggests that industry growth is stressing the supply of available pilots, or that the experiences of available pilots have changed. The military is still the primary source of pilots for the Aeromedical industry. When referring to night operations the terms “aided” and “unaided” have entered the vocabulary. The terms simply mean flying at night with the aid of Night Vision Goggles, or flying the old fashioned way, without, or unaided. The techniques used in each are different. The supply of pilots 10 years ago was a population very experienced in unaided night flight. Today’s military pilots as a population are very experienced in aided night operations.

A recent FAA notice provides some striking findings. Of the 27 fatal accidents that occurred from 1998 to 2004, 21 occurred at night. Of the 21 that occurred at night, 16 originated under Visual Meteorological Conditions (VMC). Preliminary data reveals that controlled flight into terrain, night operations, and inadvertent flight into Instrument Meteorological Conditions (IMC) are predominant factors.²

The FAA notice lists various intervention strategies and initiatives. Helicopter Association International (HAI) mirrored the recommendations in their August 2005 white paper entitled *Improving Safety in Helicopter Emergency Medical Services (HEMS) Operations*, “There is no silver bullet that will by itself eliminate accidents. Any enhancement to safety must be through a multi-faceted approach”.² MedFlight believes that in conjunction with other initiatives, the NVG program will enhance safety.

NVG uses image intensifying tubes to amplify some near-infrared and visible light. The gathered light or photons are multiplied by a factor of thousands in the tube. In the tube a photocathode converts photons to light energy. The light passes through a fiber optic “Micro Channel Plate” where a chain reaction results in thousands of electrons leaving the channel where only a few entered.

NVG enhances safety by eliminating shadows, increasing pilot and crew awareness, and reducing anxiety. Every flight crew with any tenure has a story about wires that were first seen when their landing light brushed across them: wires that first responders did not report; wires that were just beyond the first responder’s vision in the darkness, etc. Obstructions are also easier to detect with NVG.

Initial NVG flight qualifications for pilots and crews are targeted to begin later this year. Adopting NVG technology is a learning process. MedFlight will be taking a patient yet deliberate approach, while involving first responders in the landing zones through education.

We are excited to embrace this technology and the associated safety enhancement with NVG. More important, we are excited for the privilege of working with your agency as we move forward with new safety-oriented technology.

Total Number of Helicopter EMS accidents 98-04	85
Total Fatal Accidents	27
Day Operations	6
Night Operations	21

1. FAA Notice 8000.293 1/28/05 HELICOPTER EMERGENCY MEDICAL SERVICES OPERATIONS
 2. Helicopter Association International, August 2005 white paper “Improving Safety in Helicopter Emergency Medical Services (HEMS) Operations.”

Partners for Life!

Case Study



Howard Werman, MD

The Controversy Continues: Airway Management

By Howard Werman, MD, Medical Director

Out-of-hospital airway management has been the subject of great controversy. Emergency care providers have a broad spectrum of airway tools available from basic bag-valve-ventilation to the Combi-tube, Pharygeotracheal Lumen Airway and Laryngeal Mask Airway to definitive endotracheal intubation. In addition, prehospital intubation has moved from simple oral and nasal techniques to medication-assisted intubation through full rapid-sequence induction.

During the last issue of this publication, I cautioned that we needed to approach each new tool with a degree of skepticism. I cited two recently published articles that called into question the benefit of prehospital intubation (Wang HE et al: *Out of hospital endotracheal intubation and outcome after traumatic brain injury*. Ann Emerg Med 44:439-50, 2005) and specifically, rapid sequence intubation (Davis DP et al: *The impact of prehospital endotracheal intubation on outcome of moderate to severe traumatic brain injury*. J Trauma 58:933-9, 2004). Both studies suggested that prehospital intubation may actually worsen patient outcome; in the later, rapid sequence induction caused an unexpected increase in poor outcomes for brain-injured patients.

The August edition of Annals of Emergency Medicine has published a follow up to the Davis study examining only those patients who were transported by air medical transport (Davis DP, et al: *Impact of aeromedical response to patients with moderate to severe traumatic brain injury*. Ann Emerg Med 46:115-22, 2005). Interestingly, this study examined subset of the study population previously studied; however, they noted an improved outcome in brain-injured patients intubated by air medical transport crews using a rapid sequence technique.

How are we to interpret this new information? Is there something magical about the helicopter that improves the outcome of patients with traumatic brain injury following intubation?

Obviously, the answer lies not in the magic of the aircraft or the special skills of the air medical crew but in the way that rapid sequence intubation is performed. These studies do begin to shed some light on the conditions for prehospital intubation and in particular, the use of rapid sequence induction that are likely to provide benefit to our patients.

First, we must admit that intubation is a very important and potentially dangerous skill. It is best utilized by providers who have a concentrated experience in this technique. It must be performed frequently to achieve and maintain proficiency. Air medical providers are called upon to provide care to the sickest individuals, many of which require airway protection. As a result, they are constantly refreshing their skills in intubation. These same principles should be met by those ground systems who wish to institute a rapid sequence protocol for intubation. Their system must be busy enough to provide ample opportunity to 'practice' the technique. Additionally, any system that implements an RSI protocol should consider concentrating this experience in the hands of a few well-trained individuals.

Equally important is the fact that the patient must be carefully monitored throughout the intubation process. One of the significant findings of the San Diego group was that patients who were intubated in the field had unrecognized periods of hypoxia and hypercapnea (Davis DP et al: *The impact of hypoxia and hyperventilation on paramedic rapid sequence intubation following severe head injury*. J Trauma 57:1-8, 2004). This suggests that at a minimum, continuous pulse oximetry must be available throughout the entire process and must be closely monitored during intubation. Ideally, end-tidal CO₂ readings are monitored following the procedure.

Finally, there must be continuous medical oversight of any system implementing an RSI protocol. All intubations performed must be reviewed for appropriateness of medications used, proper sequence and ultimate success. An intense initial training program is mandatory, especially when an RSI protocol is instituted. In addition, continuing education and testing is required to maintain this skill. Frequent oversight and review by the system medical director is imperative to assure success.

In summary, the issue of the effectiveness of prehospital intubation and the use of a rapid sequence technique do not have 'black and white' answers. The emerging literature suggests that there are conditions that allow these techniques to be used effectively to benefit our patients.

Key Factors for a Successful RSI Protocol

- Concentrated experience in intubation among few well-skilled providers
- Proper monitoring of the patient with ECG and continuous pulse oximetry
- Intensive initial training and continued education in RSI
- Continuous medical oversight of the procedure

TouchingBase™

MedFlight of Ohio
2827 West Dublin Granville Rd.
Columbus, Ohio 43235

www.medflight.com

MedFlight wishes you a safe and joyful holiday season!

Partners For Life! Logistic & Supply Coordinator Bob Burkey



Bob Burkey

Bob Burkey has been a wonderful addition to the MedFlight team as our Logistic and Supply Coordinator. Bob takes care of providing everything our transport teams need to do their jobs. He also works closely with the Business Development department regarding promotional and educational materials.

He is a graduate of Bishop Hartley, class of 1968, and a four-year veteran of the U.S.A.F. Bob served on the Whitehall Fire Department for 23 years, retiring as lieutenant in 1999.

He previously worked for Mt. Carmel Connection for eight years before joining the MedFlight team. He is a First Elder and a Sunday School Teacher at his church. In short, Bob is an all around great guy and a thoroughly enjoyable individual to know.

MedFlight Heroes Return

MedFlight is honored to welcome our pilots home from overseas deployment. Chris Clark, Dan Michael, and Dave Corbi were greatly missed by their families and all our MedFlight partners. Please welcome them back as they go from protecting our country and freedom to safely transporting patients on our medical helicopters.

Welcome back Chris, Dan and Dave, and thank you for serving our nation!



(from left) Chris Clark, Dan Michael, Dave Corbi.