

FLIGHT ROUNDS

Laryngeal Trauma: An Overview and Case Study

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Flight For Life

Laryngeal trauma is an uncommon occurrence. The incidence of laryngeal injury comprises less than one percent of all blunt trauma cases seen at the major trauma centers of North America and Europe (Ikram & Naviwala, 2000). When laryngeal trauma does occur it is commonly associated with other life-threatening injuries. Identification of injuries, along with establishing an adequate and secure airway, are priorities in caring for these patients.

Laryngeal injury is classified as blunt or penetrating. The mechanism of injury is often a motor vehicle crash (Hwang & Yeak, 2004). An example is the driver of a car that strikes his/her neck against the steering wheel upon impact in a motor vehicle crash. The incidence of this type of mechanism is decreasing with the increased use of seatbelts and airbags. Other causes of laryngeal trauma include assault, sports injuries, gunshot or knife wounds and strangulation.

The larynx is protected superiorly by the mandible (particularly when the head is flexed), inferiorly by the sternum and laterally by the sternomastoid muscle (Hwang). The larynx may be crushed between a blunt object and the cervical spine, hence providers should be suspicious of c-spine injuries when this type of trauma occurs. Fractures are less common in children than soft tissue injuries to the larynx; laryngeal fractures do occur and may involve any part of the laryngeal skeleton (Myer, 2004).

The most common signs and symptoms of laryngeal trauma include stridor, subcutaneous emphysema, hemoptysis, hoarseness, respiratory distress and laryngeal tenderness. Up to one-third of all patients with laryngeal injury may be asymptomatic at presentation (Thevasagayam & Pracy, 2005), therefore, it is important to maintain a high index of suspicion in any injury that involves the neck.

There is controversy about the different methods of securing a compromised airway in laryngeal trauma. The American College of Surgeons recommends an attempt at intubation; if that fails an emergency tracheostomy should be performed (Hwang). Proponents of intubation contend that

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Laryngeal Trauma

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an emergency tracheostomy can damage surrounding structures. Problems with intubation in the laryngeal trauma patient include risk of further injury and possible loss of a marginal airway. Intubation may also worsen a preexisting injury, possibly causing further tears or cricotracheal separation (Hwang).

Case Review

In the spring of 2007 Flight For Life was dispatched for a high speed MVC. Initial report from the scene was that this was a head-on SUV versus semi. Per report there was extensive damage to the front end of the SUV. Extrication lasted approximately five minutes. Two IVs, oxygen at 100% via non-rebreather mask and full spinal immobilization was completed by EMS prior to arrival of Flight For Life.

Upon arrival the patient was found to be a 41 year-old female that was the driver of the SUV. She was conscious but unable to communicate with EMS or the flight crew. The patient was noted to have rapid, shallow ventilations with paradoxical movement to the right chest. Bruising was also noted to the left chest. Lung sounds were diminished throughout bilaterally. EMS had performed a needle decompression to the right chest due to signs and symptoms of tension pneumothorax. Per report from EMS, she had an unknown past medical history, medications, or allergies. Vital signs included BP 120/59, HR 139, RR 26, and SPO2 89%.

The decision was made to intubate this patient using Flight For Life's Rapid Sequence Intubation protocol. Etomidate and succinylcholine were administered IV. Intubation attempts by the Flight For Life nurse and physician were unsuccessful. However, a Combitube was placed successfully. This was followed by Versed and Vecuronium for continued sedation and to paralyze for transport. The use of a sedative and paralytic decreases the patient's work of breathing and increases the oxygenation to the tissues. There is also a decreased chance of accidental tube dislodgement during transport, which was important in maintaining this patient's tenuous airway. The patient's SPO2 increased to 97% and the patient was easy to ventilate.

As the flight crew continued preparing the patient for transport, she became difficult to ventilate, and the SPO2 began to decrease. Subcutaneous emphysema was palpated on the patient's face, neck, and chest. The left chest was needle decompressed without improvement. Needle decompression was then performed to the right chest with resultant increase in SPO2 and less difficulty with bag tube ventilation.

During the flight, the patient was hypotensive and tachycardic. IVs were infusing wide open and blood was transfused for possible internal hemorrhage. Multiple needle decompressions were performed in flight for decreasing SPO2 and difficulty in manually ventilating the patient. After needle decompressions, the patient would become easier to bag and some improvement was noted in SPO2. A trauma alert was sent by the flight physician to Froedtert Hospital requesting two chest tube trays and an emergency airway kit.

Upon arrival at Froedtert Hospital, a rapid assessment was completed in the trauma room by the trauma team. A chest x-ray was taken. The Combitube was left in place and the patient was taken emergently to the operating room (OR).

In the OR bilateral chest tubes were placed for tension pneumothoraces. A bronchoscopy was completed with tracheostomy placement and a right open ankle fracture was repaired. The patient was then taken to the Surgical Intensive Care Unit. Over the next several days, further surgeries were completed to stabilize her multiple fractures.

The injuries sustained by this patient included a fractured larynx, right flail chest, multiple rib fractures to the left chest, bilateral pulmonary contusions, bilateral tension pneumothoraces, C1- C2 fractures, traumatic brain injury and open right ankle fracture. She was discharged to a rehab facility five weeks later and planned to attend the responding fire department's annual summer picnic.

In conclusion, laryngeal injuries are rare and diagnosis can prove to be challenging. As with any trauma patient, securing the airway is a priority. A c-spine injury must always be suspected in a patient that has sustained any kind of neck trauma; c-spine immobilization should be in place until injury is ruled out. A patient with a history of cervical trauma with hoarseness, stridor, hemoptysis, or subcutaneous emphysema should prompt evaluation of laryngeal injury. Recognition of laryngeal injury is vital for preservation of life as well as long term airway and vocal function.

References:

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- Myer, C.M. (2004). Trauma of the larynx and craniofacial structures: Airway implications. *Pediatric Anesthesia*; 14: pp. 103-106.
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FLIGHT FOR LIFE presents 2006 Scene Call of the Year Awards

Every year Flight For Life (FFL) selects Scene Call of the Year Award winners from the departments who submitted applications. This award is presented to fire departments/rescue squads in recognition of outstanding patient care, scene management and valiant efforts that are considered above and beyond the scope of its everyday job.

There are two categories of departments: career and combination. This year Wisconsin had one combination award and Northern Illinois had one of each. 2006 marks the 13th Annual FFL Scene Call of the Year Awards.

Hartford Fire & Rescue



The FFL-Wisconsin award was presented to **Hartford Fire & Rescue**. The winning call occurred in October 2006 with multiple victims involved in a motor vehicle crash. In addition, we were very impressed with their recognition of the WEEPP training and SERTAC guidelines in managing this scene.

Bristol Fire Department



The FFL-Northern Illinois combination department award was presented to **Bristol Fire Department**. The winning call occurred in December 2006 involving two vehicles, one of which was a snow plow. The pediatric patient, Luke Hameau, and his family attended the event as did personnel from dispatch, law enforcement, fire department, Flight For Life, and rehab who helped to make Luke's survival a reality.

Hoffman Estates Fire Department



The FFL-Northern Illinois career department award was presented to **Hoffman Estates Fire Department**. The winning call occurred in April 2006. The patient, Steve Bergman, was involved in a motorcycle crash, suffering a severe head injury. From the time of the accident until Steve was at Lutheran General, a Level I trauma center, was less than 40 minutes. Steve, his family, and personnel from all responding agencies as well as hospital and rehab came to the award presentation.

These calls illustrate the importance of teamwork, communication, training, scene coordination and management. Congratulations to all of you!

Send us your 2007 Scene Call of the Year Award applications

It's time again to submit your applications for our Scene Call of the Year Award (SCYA), but don't just grab a copy of the same old form... we have made some exciting changes based on your answers to our survey last June. Changes to the application form this year include:

1. A short introduction followed by the criteria for the award at the top of the form. (This information was formerly in the letter that accompanied the form.)
2. An additional question regarding the use of Personal Protective Eyewear (PPE) on the call.
3. An opportunity to tell us what you learned from the call.

New to the award in 2007 is a \$500 educational scholarship for the winning departments.

An electronic version of the application form, which can be completed on our website and submitted directly to FFL will be available in the spring of 2008.

Watch for the letter coming in the mail with a list of your scene calls and a copy of the application form.

If you have any questions, please contact Kathy Mitchell at (414) 778-5435 or kmitchell@mrmcfl.org

The Hemodynamic Principle of Intrathoracic Pressure: Implications for Clinical Practice

Tom P. Aufderheide, M.D., FACEP

Professor of Emergency Medicine
Department of Emergency Medicine
Medical College of Wisconsin

A recent research study performed in the Milwaukee County Emergency Medical Services (EMS) System and an animal laboratory identified an important relationship between mean intrathoracic pressure (caused by positive pressure ventilation), coronary perfusion pressure, and survival from cardiac arrest as well as flaws in traditional ventilatory management for patients in shock. [1]

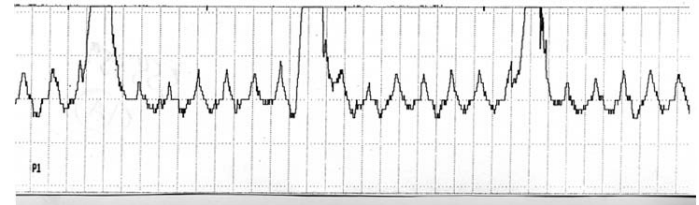
The first phase of the research was an observational study in the out-of-hospital setting evaluating paramedic use of the ResQPOD®, a device designed to augment hemodynamics by generating increased negative intrathoracic pressure during CPR. During the study, a research team was dispatched to the scene of adult cardiac arrest. Following intubation, researchers non-invasively recorded airway pressures, providing electronic recording of paramedic chest compressions and ventilations. At the time of the study, the American Heart Association recommended 12–15 breaths per minute in patients with a secured airway during CPR. [2] Following review of the first 13 cases, investigators found average maximum ventilation rates were 30 ± 3.2 breaths per minute with positive airway pressure recorded nearly half the time CPR was being performed. (Figures 1 and 2) [1,3]

Following this clinical observation of hyperventilation, animal studies were performed to determine potential hemodynamic and survival consequences. Increased ventilation rate was associated with significantly increased mean intrathoracic pressure ($P < 0.0001$) and significantly lower coronary perfusion pressures ($P < 0.03$). (Figure 3) [1,3]

Survival was then studied in the same porcine model. The survival rate in pigs ventilated at 12 breaths per minute (100% O₂) was 6 of 7 (86%) compared with a survival rate of 1 of 7 (14%) at a rate of 30 breaths per minute (100% O₂) and 1/7 (14%) at a ventilation rate of 30 breaths per minute (5% CO₂ and 95% O₂) ($P < 0.006$). (Figure 4) [1,3]

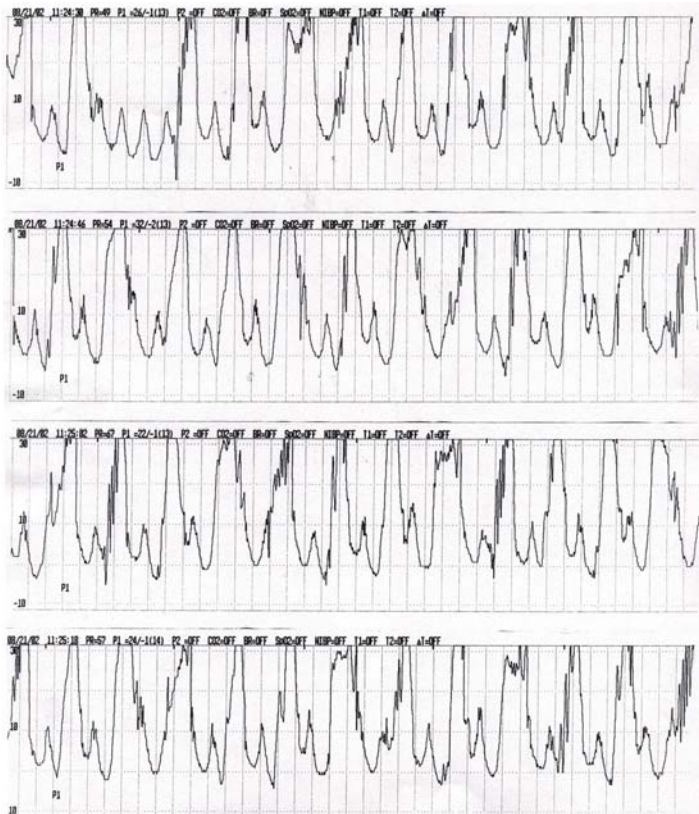
This study [1,3] demonstrated the consequences of hyperventilation: persistently positive intrathoracic pressure inhibited venous blood return to the right heart resulting in decreased forward blood flow and decreased survival. This fundamental hemodynamic principle of intrathoracic pressure (which applies to all patients in shock) is now being incorporated into clinical practice.

FIGURE 1: High Quality CPR (2000 AHA Guidelines)



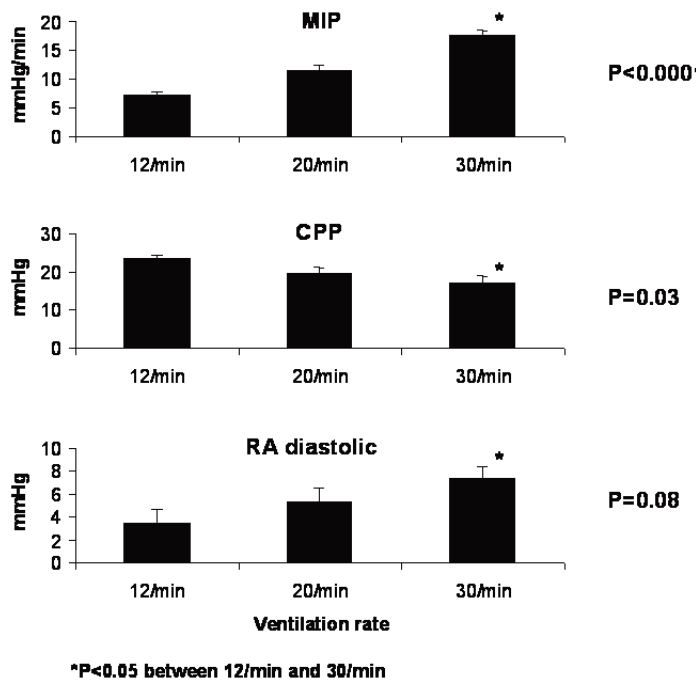
- ◆ Ventilation rate (large waves) = 12/min.
- ◆ Compression rate (small waves) = 78/min.
- ◆ Intrathoracic pressure strip records 16 seconds of time.

FIGURE 2: Example of Commonly Observed Hyperventilation



- ◆ Large waves = Ventilation
- ◆ Ventilation rate = 47 breaths / minute
- ◆ Intrathoracic pressure strips record over one minute of time

FIGURE 3: Coronary Perfusion Pressure (CPP) Decreases as Mean Intrathoracic Pressure (MIP) Increases






delivered per minute). [1,3] It is a natural human tendency to provide excessive ventilations during an emergency. Nonetheless, there is a direct relationship between the quality of CPR delivered at the scene of cardiac arrest and victim survival. [5] When performing CPR, then, one rescuer should always be responsible for monitoring the quality of CPR provided and give real-time corrective feedback to rescuers. The hemodynamically significant components of CPR that determine its quality include: compressing the chest at a rate of 100/minute, compress to a depth of 1½ to 2 inches, once CPR starts, not stopping chest compressions for any reason longer than 10 seconds, allowing the chest to completely recoil after each compression, rotating duties frequently to avoid fatigue, avoid hyperventilation and breaths of long duration, and consider using the ResQPOD® to further enhance hemodynamics.

Excessive ventilation rates (as well as the quality of CPR delivery) may be contributing to the currently dismal survival rates from cardiac arrest. [1,3] Monitoring the quality of CPR, knowing the current AHA guidelines, focusing on consistent delivery of the hemodynamically significant components of CPR, and avoiding hyperventilation will provide the highest likelihood for patient survival.

References:

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2. American Heart Association in collaboration with International Liaison Committee on Resuscitation. Guidelines 2000 for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care: International Consensus on Science, Part 1: Introduction. *Circulation*. 2000;102(suppl I):I-1--I-384.
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4. American Heart Association in collaboration with International Liaison Committee on Resuscitation. Guidelines 2005 for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care: International Consensus on Science, Part 1: Introduction. *Circulation*. 2005;112:IV-1-IV-5.
5. Abella BS, Alvarado JP, Myklebust H, et al. Quality of cardiopulmonary resuscitation during in-hospital cardiac arrest. *JAMA*. 2005 Jan 19;293(3):305-10.

FIGURE 4: Porcine Survival Study Results

Breaths/Minute	O2/CO2	Survival Rate
12	100% O2	6/7 (86%) 
30	100% O2	1/7 (14%)* 
30 *P < 0.05	95% O2/5% CO2	1/7 (14%)* 

This evidence indicates that both ventilation rate and duration should be limited during CPR and states of shock. [1,3] The National American Heart Association has increased the compression:ventilation ratio prior to an advanced airway to 30:2 (approximately six breaths/minute) and appropriately decreased recommended ventilations following an advanced airway to no more than 8–10 breaths per minute with each breath delivered at no more than one second per breath.[4]

Investigators also noted a significant difference between CPR performance by professional rescuers in the classroom (perfect delivery of recommended CPR guidelines) and performance at the scene of cardiac arrest (up to 50 breaths

FLIGHT FOR LIFE in the News

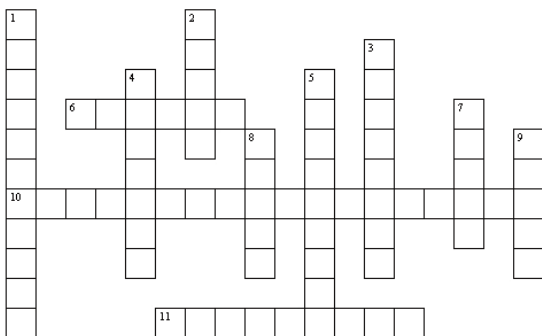
FLIGHT FOR LIFE to establish Communications Center

The Flight For Life program will be establishing its own Communications Center by January of 2008. Communications services for Flight For Life have been provided by the Milwaukee County EMS Communications Center since the program's inception.

Nationally, the air medical industry has undergone extensive, FAA-driven regulatory change over the past year. Flight For Life's decision to operate its own Communications Center is based upon these new and future industry operational requirements, growth of Flight For Life's transport volume, more stringent accreditation standards, and increasing customer service demands. According to Jim Singer, Program Director for Flight For Life, "A Flight For Life driven Communications Center will enable the program to comply with all necessary obligations, offer value-added services to its customers and meet the challenges of the ever-changing air medical transport environment."

Flight For Life values the partnership it shared with Milwaukee County over the past 23 years, and is indebted to all of those employees who were instrumental in conducting the safe transportation of over 25,000 patients.

FLIGHT FOR LIFE Landing Zone (LZ) Crossword Puzzle



Across

- 6 Vertical distance from the skids of the helicopter to the rotor blades (in feet)
 10 Person responsible for setting up the LZ and communications with the helicopter crew
 11 Type of door that the patient is loaded into through the rear of the helicopter

Down

- 1 LED illuminated devices that a crew may use to outline the perimeter of the LZ
 2 Most commonly used radio frequency in Illinois to communicate with FFL
 3 A tailguard or fenced area will help to maintain a LZ that has this required element
 4 This protection is essential when working around the running helicopter
 5 Term for the debris churned up by the moving blades of the helicopter
 7 Minimum distance that vehicles may park from the running helicopter (in feet)
 8 Term to communicate to the flight crew that they should not land at the LZ because of an unexpected hazard
 9 These hazards are almost invisible to the crew at night, when trying to land in a remote LZ

FLIGHT FOR LIFE to expand to Waukesha County Airport-Crites Field in 2008

The Flight For Life program will be remote-basing its Flight For Life-Wisconsin aircraft to the Waukesha County Airport-Crites Field in early summer of 2008.

The decision to expand to the Waukesha County Airport was influenced by several factors, according to Jim Singer, Program Director of Flight For Life: "Thirty to forty percent of Flight For Life's service region is positioned over Lake Michigan, rendering a significant portion of its response area without benefit to patients. Remote-basing the FFL-Wisconsin aircraft to Waukesha will extend our life-saving services to a greater patient population and increase the benefits our program brings to the communities we serve." Historically, air medical programs were based at tertiary care hospital centers. Now, most air medical programs are remote-based within the communities they serve - bringing much needed critical care transport resources to the patient more rapidly by reducing helicopter response times, thus improving patient outcomes. Waukesha County Executive Dan Vrakas commented, "We are very pleased that the Flight For Life program has chosen to position its aircraft at the Waukesha County Airport-Crites Field. This location will save precious minutes of transportation time for people injured in Waukesha County and throughout Southeastern Wisconsin."

Flight For Life will continue to maintain its current hangar facility on the Milwaukee Regional Medical Center campus. It will be used for patient transfers to campus hospitals, re-stocking of medical supplies and refueling their aircraft, continuing education training, and occasional maintenance support.



Left to Right: **Keith Markano**, Airport Manager, Waukesha County Airport-Crites Field; **Daniel Vrakas**, Waukesha County Executive; **Jim Singer**, Program Director, Flight For Life; and **William Hatcher**, Executive Director, Milwaukee Regional Medical Center (seated) at the News Conference to announce Flight For Life's expansion to Waukesha County Airport-Crites Field.

FLIGHT FOR LIFE recognizes 25,000th patient

On Sunday, October 28, Flight For Life gathered with multiple agencies to recognize its 25,000th patient – Nissa Stenz – and her family. The event was held at the Agnesian HealthCare Plaza Level Conference Center, located in St. Agnes Hospital. Along with Nissa and her family, many of the personnel involved, from dispatch to hospital caregivers, were in attendance.



On June 11, 2007, college student Nissa Stenz was en route to her summer job when her motorcycle collided with a dump truck, changing her life forever. The Fond du Lac County Communication Center quickly mobilized the Eden Fire Department and First Responders, Campbell-

sport Fire Department, and the City of Fond du Lac Fire Department to respond. Once she was stabilized, agencies quickly realized that her injuries were extremely critical and Flight For Life-Wisconsin was requested to the scene.

“Emergency response and the trauma system worked exactly as it should on that call, getting Nissa rapidly to the Level I Trauma Center at Froedtert Hospital to care for her life-threatening injuries,” stated Claire Rayford, spokesperson for Flight For Life.

Nissa underwent several surgical procedures and many weeks in Intensive Care to repair the multiple complex injuries she sustained in the crash. According to Nissa, “My doctors at Froedtert told me that I’m a miracle.”

After five weeks, Nissa was transferred to the caregivers at the St. Agnes Hospital Center for Physical Rehab – where she remained for several weeks to continue her recovery process. Today, she is at home, but continues to receive occasional therapy at St. Agnes Hospital Outpatient Therapies department.

Nissa’s story is an inspiration to both health care providers and families who have faced similar incredibly challenging circumstances. Nissa’s goal is to continue her final year as a senior student at the University of Wisconsin – LaCrosse. She and her family are confident that she will succeed.

The role of emergency response and the health care system is to provide the opportunity for survival; the rest is up to the patient and their support system. Flight For Life’s 25,000th patient is a shining example of how this happens.

Annual FLIGHT FOR LIFE EMS Conference well attended

The weather was perfect... like a last chance at summer; not the kind of day you’d want to spend inside. But 85 people did just that at Flight For Life’s annual EMS Conference on Saturday, October 20 at Kenosha County Center. Here are some highlights.

Keynote speaker **J. Marc Liu, MD** gave an introduction to tactical EMS and later discussed disasters and mass casualties, including important issues for event management, incident command principles and provided a review of the national disaster structure. Dr. Liu is an Assistant Professor of Emergency Medicine at the Medical College of Wisconsin and the Assistant Medical Director of Milwaukee County EMS.



James Feeney, MD, reviewed the development of trauma centers, the characteristics of Level I and II trauma centers and the importance of correct triage. Dr. Feeney is an Assistant Professor in the Department of Surgery, Division of Trauma/Critical Care at the Medical College of Wisconsin.

Shekar N. Kurpad, MD, PhD discussed how to identify patients with possible spinal cord injury (SCI) and render appropriate emergency care in the field, as well as manage acute life threatening emergencies resulting from SCI and make appropriate decisions for continued care until transfer to a tertiary care environment. Dr. Kurpad is an Associate Professor of Neurosurgery at the Medical College of Wisconsin and Chief of Neurosurgery Services, at Zablocki VA Medical Center.

Todd Rishling, CCEMT-P, reviewed how to recognize multi-system injuries that require transport to a Level I trauma center and treatments available for the patient in the acute setting. He also provided a case study review. Todd is a paramedic with Flight For Life-Northern Illinois.

Scott Anderson, CCEMT-P NREMT-P, gave an overview of adult versus pediatric trauma, reviewing assessment tools and symptoms of pediatric trauma, and ALS treatments of the pediatric patient, including fluid resuscitation and pain medication. He also provided a case study review. Scott is a paramedic with Flight For Life-Northern Illinois.

Thanks to our 2007 Conference Sponsors:
Foster Coach; Froedtert Memorial Lutheran Hospital & Medical College of Wisconsin; LifeQuest Services; MEDAlliance Group, Inc.; Stryker EMS; Thoratech Corporation; and Zoll Medical Corporation.

Pre-determined Landing Zones provide benefits to all

Pre-determined Landing Zones (PDLZs) are a nationally known concept that is being used to efficiently and effectively enable rapid transfer of critically ill patients to tertiary care centers via helicopter. The concept is a natural evolution arising from regional/state-wide Trauma System development. PDLZs have been commonly used in Illinois, which has had a mature trauma system, for over 20 years.

PDLZs are routinely used for trauma patients, but are also appropriate for any critical patient transfer as needed, i.e. STEMI transfers, pending the patient's ultimate destination. PDLZs can be either a hospital helipad (hospital's permission required for this) or some other pre-designated location. The CMS (Center for Medicare and Medicaid) has clarified EMTALA regulations when using a hospital helipad (both ground and rooftop):

A hospital's EMTALA obligation is not automatically triggered when the patient is in transit to another destination, unless a request for assistance is made by EMS personnel, the patient, or a legally responsible person acting on the patient's behalf.

Flight For Life will still need basic LZ information: major intersections where LZ is located, any hazards to be aware of and identifying information (i.e. "at the elementary school, one quarter mile north of Hwys 28 and Y).

You may still land us at any safe landing area near your scene if PDLZ location is not convenient!

Contact Flight For Life for assistance with PDLZ site inspection if needed. Once you've identified your PDLZs, please complete a PDLZ Form for each location and submit them to the Flight For Life administrative office [Fax: (414) 778-5431].

Benefits of a PDLZ:

- ✓ Assists EMS providers by relieving them of the responsibility to select a previously unused Landing Zone (LZ); takes the "guess work" out of the equation; more efficient use of personnel (you don't need to assign staff to identify an appropriate landing zone).
- ✓ Can expedite transfer of patient to a Trauma Center/ Tertiary Care Hospital: saves time by not having to set up/secure a previously unused LZ; EMS can begin trip towards destination hospital and rendezvous with helicopter while en route.
- ✓ Helicopter crews become familiar with the location of pre-designated sites – they know exactly where they are

going. Flight For Life can pre-load the GPS coordinates of PDLZ sites into our aircraft navigation system.

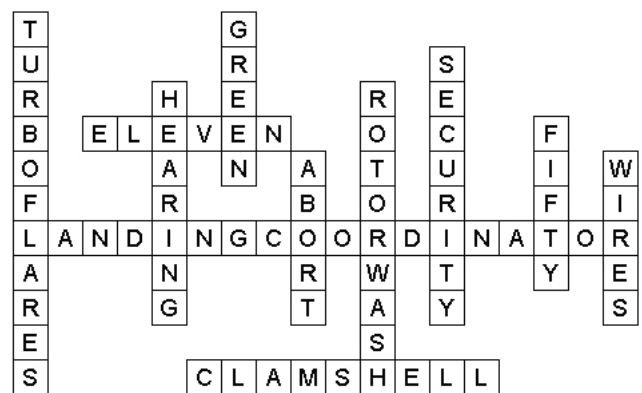
Site Selection:

- ✓ Large area, free of hazards, i.e. wires, towers, light poles, telephone poles, etc. (use same specifications as on Flight For Life's "Landing Zone Preparation and Safety" educational card).
- ✓ Readily accessible to EMS providers.
- ✓ Easy to locate by air; be aware of "tree lines" or dense foliage obstructing aerial view of LZ lights, especially during night time operations.
- ✓ Not occupied with vehicles.
- ✓ Snow cleared during winter months.
- ✓ Site use may vary depending on the time of day (i.e. vehicles on parking lots during the day, but not at night) or season of the year (i.e. sports fields).
- ✓ Examples of site locations: Church parking lots; school parking lots; Fire Department parking lots; "Big Box" store parking lots; sports fields (weather or "seasonal" dependent) – baseball/football/soccer; parking lots next to sports fields.
- ✓ Pick out several locations in different geographic segments of the region. **Choose 2-6 per community**, depending on population density and area covered. Review sites at a minimum annually to inspect for hazards and changes in the area of the PDLZ.

Landing Zone Security:

- ✓ Personnel must be designated to provide security for the PDLZ.
- ✓ Agencies may collaborate to provide "mutual aid" assistance in securing PDLZ.
- ✓ Number of personnel needed may vary depending on location and time of day.

Answers to *FLIGHT FOR LIFE* Landing Zone (LZ) Crossword Puzzle



FLIGHT FOR LIFE - Northern Illinois 20th Anniversary Open House

On September 29th, Flight For Life-Northern Illinois held an open house to celebrate its 20th anniversary. The weather was perfect and the helicopter cookies were delicious! Fire, EMS, and hospital personnel who have made the site's 20 years of transport possible were invited to attend the event. Current and former flight crew members, along with a few former patients, were also in attendance.

The highlight of the day was the sharing of stories of survival and recovery by a few of the over 10,000 patients that FFL-NI has cared over the past 20 years. Particularly moving were the stories of Jeff Hensel and Mike Deibel, two young men who suffered devastating brain injuries in separate car crashes two years apart. It was the commitment and perseverance of each, along with that of their families, which made their recovery against all odds so amazing. Their stories reminded us all that what we do in partnership makes a difference to those whose lives we touch. By giving the gift of survival we are providing them the opportunity for recovery.

The staff and crew at Flight For Life-Northern Illinois would like to thank all of the agencies, fire, EMS, law enforcement, dispatch and hospitals, who allow us to be a part of a life-saving team and do a job that we love. Without these partnerships, the success of the past 20 years would not have been possible.



Current and former staff and crew

Left to right: Bill, Nancy and Jeff Hensel (former patient), Mike (former patient), Susan and Blake Deibel.



In Memory of Pete McWilliams and Dave Grandt



Dave Grandt, a retired thirty year veteran of Schaumburg Fire Department, was killed on August 2nd when the motorcycle he and his wife, Christine, were riding collided with another vehicle in Indiana. The couple was on their way back home from a motorcycle trip to Nova Scotia with friends when the accident occurred.

Christine suffered life-threatening injuries and was flown by helicopter to a trauma center in Indianapolis. Dave, unfortunately, succumbed to his injuries on scene.

Dave joined the Schaumburg Fire Department in 1977. He earned the rank of Lieutenant and was the EMS Coordinator for the department until his retirement in May. Even after he retired, he continued as the department's EMS coordinator in a civilian position. In July, Flight For Life-Northern Illinois was called to the scene of a motor vehicle crash in Schaumburg. Dave was on scene and assisted with the call. This was his last call before leaving to go on vacation.

Dave is survived by his wife, Christine, and two sons, Scott and Todd.



Pete McWilliams, a 16 year veteran of the Lake Forest Fire Department, was killed in the morning of September 3rd in a motorcycle crash in Lake Forest. He was transported by the Libertyville Fire Department to the Condell Medical Center where he succumbed to his injuries later that day.

Pete joined the Lake Forest Fire Department in 1991. He was a member of the Lake County Hazmat Team and the department's Public Education Team. Any time you saw Pete, he had a smile and a kind word. Pete was an easy going person who enjoyed the opportunity to help others. He was an organ donor, and his family honored his wishes for organ donation. Even in his death, he was able to help others through this gift of life.

He is survived by his wife, Sue, children, Kerry, Melissa, Ryan and step-daughter Gwendolyn.

Sarah's Story

Tammy Chatman

Professional Relations/Marketing Manager Flight For Life-Northern Illinois

In October of last year, Sarah, a 23 year old firefighter/paramedic with Fox Lake Fire Department and paid-on-call with Wauconda Fire Department, was diagnosed with Guilliam-Berre Syndrome.

It all started with a cold that would not go away and progressed to excruciating neck and back pain within a matter of weeks. When she went to a friend's wedding on October 9th in Chicago, she had trouble walking without tripping and falling. She ended up in the Emergency Department on the 10th, but was sent home with a diagnosis of the flu. The next day she ended up going back to the Emergency Department with continuing symptoms.



Sarah and her dad, Ed

On the 11th of October, Sarah was admitted with an unconfirmed diagnosis of Guillian-Berre Syndrome. Within a couple of days the diagnosis was confirmed. She was transferred to the ICU and was put on a ventilator by day four. By day 11 she was trached and she stayed trached until November. In all, her stay in the ICU lasted one and a half months. The pain was practically unbearable for Sarah, with the pain in her back being the worst.

On November 5th, Sarah was discharged to inpatient rehab where she stayed for a month. She continued outpatient rehab until March, when she transitioned to working out in the gym. In May, Sarah was cleared to return to work at Fox Lake Fire Department. She went back to school to work on her associate's degree in Fire Science and EMS, plus she has also been working on her fire officer classes as well.

While Sarah was in the hospital, she received cards, letters, phone calls, emails, and visits from friends and family. Tim Olk, a fire photographer, collected nearly 60 fire department tee shirts for Sarah and brought them to the hospital. Her room was decorated in tee shirts and she wore a different one each day to rehab. Her family placed a notebook in her room that guests would sign and write what was going on with them, or what went on during their visit.

This was a challenging time for Sarah, as it would be for anyone. She had endured enormous pain, frustration, helplessness and fear but it taught her many life lessons as a caregiver. One of the lessons is proper pain management for

patients. Sarah now views her patient's pain with greater empathy, and listens more closely to what they have to tell her about their level of pain. She believes what they are telling her, as she knows what it is like to be on the other side.

She learned the frustration of relying on others and being at their mercy, completely without control over any aspect of her life. Not being able to do the most basic things for your self was both frightening and humiliating. Many times she wondered if she would ever recover. What if she had to spend her life in a wheelchair and how would life be like that? She found that people treated her differently when she was in the wheelchair. This experience would leave her with a greater understanding of the sense of helplessness that her patients feel, and how she can help them deal with this feeling.

Sarah also had a number of "firsts" that gave her hope that things were getting better: her first shower, first car ride, first time standing up, and her first un-aided step. All these firsts added up to a recovery with no residual problems.

Sarah's story is not just one of adversity and recovery, it is a story of family, both immediate and extended, who come to the aid of someone in need. Sarah's family stayed with her day and night when she was in the hospital. When she went to outpatient rehab, they drove her there everyday. After being discharged from the hospital, she moved in with her Mom temporarily until she could function on her own. They also were there to support her emotionally, as Guillian-Barre takes a huge emotional toll on its victims due to its sudden onset and long-term recovery.

It was Sarah's "Fire Service Family" that came to her aid when she and her family received the devastating diagnosis. The Fox Lake Fire Department stepped in and organized a benefit and collected raffle and silent auction donations to raise money to help offset some of the financial devastation that would accompany the prolonged hospitalization that Sarah was facing. The benefit took a lot of hard work, coordination and extra time on the part of the Fox Lake Fire Department personnel. Members of the Wauconda Fire Protection District, where Sarah's dad, Ed, is a Lieutenant, established and managed an account at a local bank to handle the financial donations that were being received. They also solicited raffle prizes from the community. The Spring Grove Fire Protection District where Ed is also a paid-on-call firefighter, donated the proceeds from their annual Corn Maze to the fund for Sarah.

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FLIGHT FOR LIFE says goodbye to one of its founders

Tammy Chatman
Professional Relations/Marketing Manager
Flight For Life-Northern Illinois

On Saturday, November 10th, the Flight For Life family said its goodbyes to Jim Ryan, one of the three originating members of the program. Flight For Life-Wisconsin paid its final respects in a fly-over as hundreds who came to share in the celebration of his life looked on. Jim died of stomach cancer on Tuesday, November 6th, at age 63. He leaves behind Lisa, his wife of 41 years, and four children - Jimmy, John, Kristen and Cathryn.



Jim Ryan was the President of the Milwaukee Regional Medical Center (MRMC) from 1983 until 1996. It was in 1984 that he, Barb Hess and Dr. Joe Darin began the Flight For Life program. He was instrumental in guiding the program through a number of difficult times, including the death of Barb, Flight For Life's Program Director, in 1988. In 1996, he left the MRMC to become the CEO of the Penfield Children's Center in Milwaukee, where he continued to champion the mission of the organization until his untimely death.

Jim was a man of deep commitment to the people and the communities he served. He began his career as a child welfare supervisor before coming to the MRMC, served as the Village President for Hales Corners for twenty years and was a Milwaukee County Supervisor as well. His tireless and passionate fund raising efforts were well-known, from the St. Mary Catholic Faith Community expansion to the Boerner Botanical Gardens and the Penfield Children's Center.

One of the things that Jim was renowned for was his belief in "consensus building." That is what made him such a good politician and leader. Whether on the golf course, or at one of the thousands of breakfast or lunch meetings that he attended, he was about relationships and consensus. We wondered where he put all that food, as he never seemed to gain any weight!

In 1990, Jim hired me and gave me the opportunity to do what I truly love, and for that I will be forever grateful. There are memories of Jim that will stay with me always: his red scarf in the winter, his enthusiastic sharing of the latest idea that came to him in his morning shower, the expressive gestures he used when communicating his thoughts, his quick smile and twinkling blue eyes, but most of all his compassion and unwavering dedication to making the world a better place.

On Thursday, November 1st, Governor Jim Doyle came to Milwaukee to the Penfield Children's Center to present the Governor's Lifetime Achievement Award to Jim. Unfortunately he was so sick he could not attend, so his son, Jim, accepted the award on his behalf. Jim Ryan was one of the most self-less individuals I have ever known; what he did he did for others, not for himself. He touched the lives of thousands of people through the work that he did. He was a friend, colleague, mentor, champion, boss, father and husband.

Those of us at Flight For Life know that Jim, along with Barb and Dr. Darin, helped to make us the organization that we are today. We will miss him more than words can say, but know that his legacy will live on in the work that we do each day to make a difference in the lives of others.

Sarah

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Guillain-Barre is an inflammatory disorder of the peripheral nerves that is characterized by rapid onset of weakness and/or paralysis of the legs, arms, breathing muscles and face. It is the most common cause of rapidly acquired paralysis in the US today. Though most people recover, the illness is unpredictable, leaving its victims in the hospital for months and requiring even longer periods in rehab. Because of this, and the fact that Sarah is a diabetic, her prognosis was unsure.

From fundraisers to collecting tee shirts, coming to the aid of a fellow firefighter in need, even if you do not know them personally, is something that the fire service does without a second thought. This is truly what makes the fire service an amazing group of people. The fire service and the surrounding community showed us all how working together can make a difference for someone in need. It certainly makes me proud to be a part of the fire and EMS family!

2007 / 2008 Upcoming Events/Conferences

PHTLS Course

The next PHTLS course will be

✓ **February 16-17, 2008 Menomonee Falls FD**

For a brochure with registration form, go to our website: www.flightforlife.org and look under the **Site Quick Links** section in the right-hand column of the home page.

If your department is interested in hosting a PHTLS course, let us know and we will bring the show on the road. For more information, please e-mail Leif Erickson at lerickson@mrmcfl.org or call Kathy Mitchell at (414) 778-5435 to leave a message for Leif.

2008 TNS Course

The 2008 Trauma Nurse Specialist (TNS) course dates are: **January 9, 10, 11, 16, 17, 18, 24 & 25.**

For a brochure and application form, go to our website: www.flightforlife.org and look under the Site Quick Links section on the right side of the home page OR click on the Education tab and find the links you need there.

2008 TNS Refresher Course

Dates for the TNS Refresher Course are:

October 8 & 9, 2008

Watch our website: www.flightforlifef.org for more information as the dates approach.

FLIGHT FOR LIFE - Wisconsin **2008 Clinical Observation Participant Shift (COPS) Inservice** (formerly called Ride-Along Inservice) **Saturday, August 16, 2008**

Date and location to be determined. Watch for more info in the next issue of *Flight Rounds* or check our website: www.flightforlife.org.

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