ILLINOIS ITLS news
Illinois Chapter of International Trauma Life Support
ITLS International Trauma Life Support ILLINOIS
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Can You Make the Diagnosis?

Art Proust, MD, FACEP

You are called to the scene of a 39-year-old male involved in a head-on motor vehicle collision of an undetermined speed, resulting in a rollover on a rural highway. The patient was not wearing a seat belt and was ejected from the vehicle. He was found obtunded in a ditch. He was fully immobilized. Vital signs were: P 130, R 30, BP 126/68. IVs x 2 were established en route and ventilation was assisted. Given this presentation, what are your immediate concerns?

Figure 1

Figure 2

On arrival to the ER, his GCS was 6 and a RSI intubation was performed. His ER work-up revealed:

A fracture of the posterior lateral wall of the left maxilla with displacement of bone medially; hairline fracture of the right nasal bone; extensive areas of pulmonary contusion; nondisplaced fracture of the medial left clavicle; herniation of the stomach into the chest with fluid noted in the stomach; renal contusion; and fractures of the left inferior pubic ramus and anterior cortex of the left acetabulum.

Figure 1 is a chest x-ray revealing herniation of the stomach into the left hemi-thorax. Figure 2 is the subsequent chest CT revealing the same.

The patient was subsequently transferred by air to a Level I trauma center for surgical intervention to repair his traumatic diaphragmatic hernia.

With a rollover MVC and ejection of the patient, you must remember patients are three times more likely to die or have serious injuries. It is critical the trauma assessment be attentive to consider all immediate and potential life-threatening injuries with these type of patients. Although part of the "deadly dozen," traumatic or acquired diaphragmatic hernias are difficult and often impossible to diagnose in the field.

Overall, very few patients with blunt trauma (1-1.5%) sustain a rupture of the diaphragm. Of patients admitted to the hospital for trauma, 3-5% have a diaphragmatic hernia. The male-to-female ratio is 4:1, with most presenting in the third decade of life. Approximately 69% of hernias are on the left side; 24% are on the right owing to hepatic protection and increased strength of the right hemi diaphragm; 15% are bilateral. About 40-50% of traumatic diaphragmatic hernias are asymptomatic.

The most common cause of acquired diaphragmatic disorders is trauma, either blunt

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or penetrating. Motor vehicle collisions are the leading cause of blunt diaphragmatic injury, whereas penetrating injuries result from gunshot or stab wounds. Several more recent retrospective studies found 75% of patients to have tears from penetrating injuries, which may stem from increasing awareness on the part of providers and/or the ability to detect small tears via minimally invasive methods.

The following theories have been postulated to explain the mechanism of rupture for blunt injuries: shearing of a stretched membrane, avulsion of the diaphragm from its points of attachment, and sudden increase in the transdiaphragmatic pleuro-peritoneal pressure. Subsequent circulatory and respiratory depression secondary to decreased function of the diaphragm and intrathoracic positioning of abdominal contents will subsequently lead to compression of the lungs, shifting of the mediastinum, and cardiac compromise.

Patients will often present with: marked respiratory distress, decreased breath sounds on the affected side, palpation of abdominal contents upon insertion of a chest tube, auscultation of bowel sounds in the chest, paradoxical movement of the abdomen with breathing, and diffuse abdominal pain. Imaging is most often required to detect these injuries. In 23-73% of cases, traumatic diaphragmatic ruptures will be detected by initial chest radiography with 25% found with subsequent films; most are sensitive for detecting left-side hernias. Helical CT, however, is a better (although not perfect) imaging choice. Sensitivity has been reported to be 71-100%, with a higher sensitivity on the left than on the right; specificity is about 90%. CT findings indicative of rupture include: direct visualization of the injury, segmental diaphragm nonvisualization, intrathoracic herniation of viscera (as in Figure 2), and contrast extravasation.

Surgery is the treatment of choice. If discovered during the acute phase of trauma, approach should be via a laparotomy because concomitant intra-abdominal injuries are more likely to be present than thoracic injuries are (84% vs. 53%). When the diaphragmatic injury goes unnoticed for months or years as is often the case with penetrating injury to the diaphragm, the approach is via a transthoracic or thoraco-abdominal approach because the herniated intra-abdominal contents tend to be firmly attached to intrathoracic structures, making a transabdominal approach difficult.

Reminder: Complete 8e Instructor Update

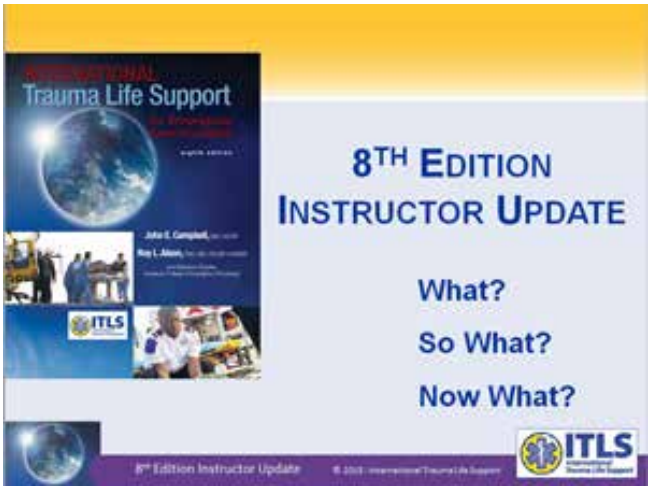
Have you completed the 8th Edition Instructor Update yet? The deadline to complete the Update for all ITLS Illinois instructors was April 30, 2016. All current instructors must complete the Update before teaching from the 8th edition textbook.

The cost is $35.00 USD. Payment can be made with a credit card or with your bank account via PayPal. Access to the online program is instantaneous and can be completed in about 1 hour. Register for the program online at http://learn.itrauma.org. When you purchase the program, you will need to create a new account. Your existing ITLS accounts (CMS or other) will not work.

Program Requirements

The ITLS 8th Edition Instructor Update is intended for current ITLS instructors ONLY. It is not for initial instructor certification. If you are not a current instructor, please do not register for this program.

If you have questions about whether you are eligible to renew your ITLS Instructor status by completing the 8th Edition Instructor Update, please contact ITLS Illinois Chapter Coordinator Sue McDonough at suem@icep.org or 630-495-6400, ext. 201.



Receiving Your Instructor Recertification Card in Illinois

The ITLS Illinois chapter will issue and mail the instructor recertification cards within 30-45 days after completion of the 8th Edition Instructor Update program. The instructor recertification time will be three years. Instructors will be required to teach three times in the three-year period. Instructors who complete the online update but who need to fulfill one time teaching to be eligible to receive their new card will be notified by email.

Join Your ITLS Illinois Colleagues at 2016 Conference in San Antonio, TX

For trauma education, networking, and fun on the San Antonio River Walk, join ITLS at the 2016 International Trauma Conference on October 26-29 at the Wyndham San Antonio River Walk.

The conference provides up to 29.5 continuing education hours (up to 13.5 for 2-day conference and up to 16 hours for preconference programs) for physicians, PAs, nurses, paramedics and other EMS personnel.

To register or view the full conference brochure, visit ITRAUMA.org/conference. Early registration discounts expire September 15, so register before then for the lowest rates!

The educational program features keynote speakers:

- Edward Racht, MD, Chief Medical Officer for American Medical Response, highlighting new tools and practical approaches to manage patients in a changing EMS environment.
- Paul E. Pepe, MD, MPH, FACEP, MCCM, MACP, of the University of Texas Southwestern Medical Center at Dallas, analyzing new strategies for why and how we need to practice both evidence-based and experience-based medicine.
- Dr. Pepe will also evaluate the use of prehospital endotracheal intubation (PHETI) and when its use is appropriate to ensure best patient care.
- Scott Bolleter, BS, EMT-P, Chair of Centre for Emergency Health Sciences in Spring Branch, Texas, demonstrating the reality of medical misadventure and crew resource mismanagement in this powerful session that focuses on provider responsibility.

Other hot topics on the 2016 agenda include damage control resuscitation, pediatric penetrating trauma, vascular access in disaster response, acute spinal cord injury, hypothermia assessment, and more.

Preconference Programs

Join ITLS before the conference for preconference courses and workshops:

- ITLS Pediatric Provider Course on October 26
- ITLS Military Provider Course on October 26-27
- Teleflex Prehospital and Emergency Care Procedural Cadaver Lab on October 27 (morning or afternoon session available): The Procedural Cadaver Lab, presented by Teleflex, provides a unique opportunity for anatomical exploration as it relates to critical care and lifesaving emergency procedures. Hands-on practice on cadavers fosters a deeper appreciation of human anatomy and the impact of the disease process. Participants will practice basic airway management, direct and video laryngoscope intubation, intraosseous access, and other emergency procedures. Expert faculty will help participants analyze risks and recognize the potential for complications when these procedures are performed in suboptimal conditions. Cost is only $49! Space is limited.

Conference Social Event: Saturday Night Rodeo

Grab your cowboy boots and get ready for a night of fun! The International Trauma Conference is finishing with an authentic San Antonio experience: the Saturday Night Rodeo. Join your colleagues at the rodeo for a BBQ dinner, cash bar, full-speed rodeo events, and live music and dancing.

Tickets cost $55 for adults and $35 for children. Ticket includes dinner, entrance ticket to the rodeo, and transportation to and from the conference hotel. Ticket is NOT included with conference registration. All tickets must be purchased separately.

Find out more about conference sessions, speakers, special events and travel accommodations at ITRAUMA.org/conference.

New Blended-Learning ITLS Instructor Course Curriculum Required Effective July 1, 2016

ITLS Illinois course coordinators are reminded that the new blended-learning format of the ITLS Instructor Course became mandatory on July 1, 2016.

One-day Instructor courses are no longer valid to train certified ITLS instructors and requests for these courses will not be approved in CMS. All Instructor Courses must be conducted in the blended-learning format that includes the Online Component and Classroom Component.

The new course format is designed to better prepare instructors with the skills and knowledge to deliver ITLS training more effectively to a global audience.

To register and purchase the Online Component, eligible instructor candidates will visit: http://learn.itrauma.org. The cost of the Instructor Course Online Component is $45.00 USD. Access to the online program is instantaneous and will take approximately 3 hours to complete.

The Online Component is built on a foundation of adult education principles. It is composed of 8 interactive modules with video examples to illustrate the course's core teaching. It is approved by the Commission on Accreditation of Pre-Hospital Continuing Education (CAPCE) for a maximum of 3.25 continuing education hours (CEH).

The ITLS Instructor Course: A Blended-Learning Approach is a multi-step process. After you successfully complete the Instructor Course Online Component, you must register and complete an in-person Instructor Course Classroom Component (coordinated through ITLS Illinois coordinators). You must also be monitored by ITLS Illinois teaching a lecture, skill station and patient assessment at an ITLS Provider course. When these requirements are met, you will receive your ITLS Instructor certification and card from ITLS Illinois.

The Classroom Component is an in-person course at which instructor candidates will learn how to teach skill stations, administer testing procedures and evaluate student performance. The course provides 6.75 hours of CAPCE credit. Coordinators may set their own cost for the Classroom Component. There is no certification fee due to the chapter office or the International office. Instructor certification cards will be issued by the chapter after the instructor candidate has completed the required monitoring for final approval.

Course coordinators may request the Classroom Component Guidelines and agenda by emailing Sue McDonough at suem@icep.org.

The ITLS Illinois Advisory Committee set a policy that current ITLS Illinois instructors may take the new Online Component to replace one time teaching in their three-year certification period and receive 3.25 CE hours. This would be approved only one time for each instructor.

Notes from ITLS Illinois: Quick News

New Affiliate Faculty Member Dean Buch Welcomed in 2016

Dean Buch, EMT-Paramedic, of Medstar Ambulance in Belleville, has been nominated and approved as an ITLS Illinois Affiliate Faculty member in 2016. Congratulations to Mr. Buch!

Welcome to Advisory Committee Member Dr. John Hafner

ICEP Past President John Hafner, MD, MPH, FACEP, of Peoria, was been appointed to the Board Liaison position on the ITLS Illinois Advisory Committee. Welcome, Dr. Hafner!

Upcoming Advisory Committee Meeting Dates in 2016

There are two meetings remaining of the ITLS Illinois Advisory Committee meeting in 2016: Monday, September 12; and Friday, December 9; from 10 AM to 12 PM.

Meetings are held at the ICEP office in Downers Grove, as well as at Illinois Central College in Peoria and Memorial Hospital in Belleville. Videoconferencing will be available at all sites. Attendees may also particpate by teleconference. As a reminder, all Affiliate Faculty are **required** to attend **one meeting every 2 years.** Attendance at additional meetings is optional.

Updated ITLS Illinois Publication Order Form Available

The revised ITLS Illinois Order Form has been updated to include the latest publications and pricing. Orders should be placed by calling ITLS Illinois at 630-495-6400, ext. 213. At this time, orders may not be placed online. Thank you for your understanding.

Research Forum Abstract Showcase

2015 Winner Focuses on Success of the Surgical Airway in Military Patients

The 2015 International Trauma Conference in Las Vegas marked the debut of the Research Forum, at which selected abstracts of original research were presented as ePosters. In 2015, eight abstracts were selected for presentations, with presenters from the United States, United Kingdom, Spain, and Pakistan.

The abstract presented by Anthony Kyle, MA (Ed), RAF, Nurse Research Fellow, Academic Department of Military Emergency Medicine, Medical Director, Joint Medical Command, Birmingham, United Kingdom, was selected as the winner of the Excellence in Research award by the Forum's panel of judges. Mr. Kyle presented his ePoster via video from the UK. The abstract appears below:

The Success of the Surgical Airway in Severely Injured Military Patients – Data From the Joint Theatre Trauma Registry (JTTR)

Andy Thomas, MC, Para*, Anthony Kyle, RGN, MA (Ed), RAF*, Lt. Col. Simon LeClerc, EM Consultant, Lt. Col. Paul Hunt, EM Consultant, Professor Ian Greaves, EM Consultant and Professor Jason Smith, EM Consultant; Joint Medical Command, Birmingham, United Kingdom

Background: The placement of a surgical airway (SA) is an uncommon occurrence in normal UK clinical practice. The recent conflict in Afghanistan led to severely injured patients being managed in the pre-hospital environment, often by relatively junior personnel. Anecdotally, numerous SAs were placed.

Objective: This study evaluated all SAs performed by UK military medical personnel during the conflict, defining the stage of care at which it was performed, seniority of practitioner undertaking the procedure and procedural success.

Design/Methods: A retrospective database review was conducted using the UK Joint Theatre Trauma Registry (JTTR). All patients who underwent surgical airway by UK medical personnel from 2006 - 2014 were included. Data included demographics, injury severity score (ISS), successful placement (from review of clinical notes) and survival. Each patient identified was checked against the original clinical records. The data was analysed using SPSS.

Results: 88 patients met the inclusion criteria. The mean age was 25 years, (SD 5), with a median Injury Severity Score (ISS) of 59 (IQR 42). 81 (92%) of all SAs were found were inserted correctly. 7 (8%) where either inserted incorrectly or failed to perform. 79 (90%) of these procedures were performed either by medics or General Duties Medical Officers at point of wounding or Role 1. 6 (7%) were conducted by the Medical Emergency Response Team (MERT), whilst the remaining 2 (2%) underwent the procedure in the emergency department. 21 (26%) patients survived to hospital discharge.

Conclusion: SAs can be successfully performed in the most hostile of environments with high success rates by military medics or junior doctors. The majority of procedures were performed prior to arrival in the emergency department. These results compare favorably to US military data published from the same conflict.

Impact: If this can be replicated worldwide for both civilian and military patients a great number of lives could be saved.

Also presented at the Forum, of particular interest to ITLS Illinois Chapter Medical Director Art Proust, MD, FACEP, was a presentation on the use of video laryngoscopes by Bryan Bledsoe, DO, FACEP. The abstract follows:

Introduction of Video Laryngoscopes Did Not Improve Prehospital Intubation Success Rates in a Large EMS System

Anna Miller, MD, Bryan Bledsoe, DO, FACEP*, Eric Dievendorf, EMT-P, Stephen Johnson, EMT-P and Steven Carter EMT-P; Department of Emergency Medicine, University of Nevada School of Medicine and American Medical Response/MedicWest Ambulance, Las Vegas, Nevada, USA

Background: Many EMS systems have added video laryngoscopy (VL) as an alternative to standard intubation with a rigid laryngoscope. In the summer of 2014, King Vision video laryngoscopes were added to the ambulances in the Las Vegas, Nevada EMS system. The manufacturer instructed paramedics in proper use of the VL and EMS clinical personnel assured competency before being allowed to use the device.

Objective: The objective of this study was to determine whether the addition of video laryngoscopes improved the prehospital intubation success rate.

Design/Methods: This was a retrospective review of data from the Cardiac Arrest Registry to Enhance Survival (CARES) registry and the electronic prehospital care

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Research Forum Abstract Showcase

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records for the two largest EMS transport services in Las Vegas. The study period was January 1, 2014 through December 31, 2014. Cases where endotracheal intubation was attempted were reviewed and data entered into a survey instrument. The data were summarized and statistical analyses completed. During the first half of the year all intubations were by standard laryngoscopes. After introduction of the video laryngoscopes paramedics were allowed to choose which device they would use for a particular intubation.

Results: A total of 805 intubations were reviewed. Of these, 454 (56.4%) were performed using standard laryngoscopy while 351 (43.6%) were performed with video laryngoscopes. The results are detailed in Table 1. There was no statistical difference in intubation success rates between the two techniques. First attempt intubation success rates were also similar for the two devices (80% for standard intubation and 77.2% for VL). The combined first attempt success rate was 76.5%.

Conclusion/Impact: No statistically significant improvements in prehospital intubation success rates were noted when VL was added to the EMS system. However, the addition of VL did not worsen prehospital intubation rates and may provide paramedics an alternative method for prehospital intubation.

Other topics presented at the 2015 Research Forum were:

- Establishing the Basis of a Trauma Regional System: Pattern of Critical Trauma Patients Assisted in the Emergency Department of the Public Hospital Network of Aragon (Spain)
- Trauma Team Training and Sustainment: Fleet Surgical Trauma Training. The Perfect Rural Hospital Catastrophe Training Model
- The Continuum of Immersion Training - Moving the Training to Solid Objective Data – Part One: The Course is Developed
- The Continuum of Immersion Training - Moving the Training to Solid Objective Data – Part Two: The Development of Objective Measurements of Course Value, Stress and Habituation. Finding the "ZONE" with Objective Data
- Buggy (ATV) Accidents - An Emerging Public Health Problem in Kuwait
- Preserving the Ability to Kill the Adversary Who Wounded You: Comparative Marksmanship With a Combat Application Tourniquet Versus the iTClamp 50 Hemostatic Clam

Read All the Abstracts

Download the 2015 Research Forum Abstracts eBook online at ITRAUMA.org/2015research

The Research Forum will be presented again in 2016, from 2:00 PM to 5:00 PM on Friday, October 28 at the International Trauma Conference in San Antonio, Texas. Topics and presenters will be announced shortly.

To register for the 2016 International Trauma Conference or find out more, visit ITRAUMA.org/conference.

Table 1.

Device	Total Intubations	Successful Intubations	*p*
Standard Laryngoscopy	**454 (56.4%)**	**366 (80.6%)**	
Video Laryngoscopy	**351 (43.6%)**	**301 (85.8%)**	
Total	**805 (100%)**	**667 (82.9%)**	**0.562**

COMING OCTOBER 2016

8th Edition ITLS eTrauma

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3000 Woodcreek Drive, Suite 200
Downers Grove, IL 60515

the Illinois Chapter of International Trauma Life Support

phone 888.495.4237
fax 630.495.6404
www.itraumaIL.org

2015 ITLS Illinois Training Summary

From January to December 2015, ITLS Illinois coordinators completed a total of 101 courses and trained 1,160 students.

This included 10 Instructor courses, 5 Military Provider courses, and 3 Pediatric Provider courses. A total of 32 courses were Provider Recertification courses.

Dale Tippett, of Peoria Area EMS, coordinated the most courses in 2015, running 17 Provider and Instructor courses in Peoria and surrounding communities.

Thank you to all of our ITLS Illinois Instructors and coordinators for their hard work.

Upcoming ITLS Illinois Courses

For the most updated list of upcoming courses in ITLS Illinois, including registration information, please visit http://cms.itrauma.org/CourseSearch.aspx. You do not need to log in to access this page. Here are some of the upcoming courses in Illinois:

September 13: Advanced Instructor Classroom Component
Registration: Nicholas Fish, T 815-780-3114
Illinois Valley Community Hospital, Peru

September 16 or September 17: Advanced Provider Recertification
Registration: Ed Kemnitz, T 217-428-8641
DATC, Decatur

September 23-24: Combined Provider Certification
Registration: Karyn Eisemann, T 618-257-5736
Memorial Hospital, Belleville

September 30: Combined Provider Recertification
Registration: Debbie Woelfel, T 618-258-9930
Alton Memorial Hospital EMS, East Alton

October 1-2: Combined Provider Certification
Registration: Shelley Peelman, T 217-359-6619
Presence Regional EMS, Champaign

October 4: Combined Provider Recertification
Registration: Danelle Geraci, T 309-624-4638
Peoria Area EMS, Peoria

October 11: Combined Provider Recertification
Registration: Jason Wright, T 217-258-2403
Sarah Bush Lincoln Health Center, Mattoon

October 15-16: Combined Provider Certification
Registration: Jason Wright, T 217-258-2403
Sarah Bush Lincoln Health Center, Mattoon