

Can You Make the Diagnosis?



**Art Proust,
MD, FACEP**

You respond to the scene of a young male involved in a rollover motor vehicle collision.

He was a single occupant of the vehicle, unrestrained, and left the road at an

estimated 55-60 mph. He was ejected and found 25 feet from the vehicle, on his back in the grass. There is moderate to severe front end damage to the vehicle as well as damage to a telephone pole.

He is complaining of left shoulder and mid to low back pain. He is unknown to have had a loss of consciousness but is amnesic to the event. He admits to drinking a "few beers."

He is alert, oriented to person and place, disoriented to time and event, with a GCS of 15. Rapid trauma survey reveals no immediate life threats but noted left upper chest wall tenderness without crepitus, left flank and left lower chest wall tenderness,

and left mid and low back tenderness. Secondary survey added no other findings. Vital signs are BP 124/72, P 94, R 24, and O2 saturation of 93% RA. What are your suspicions? What should you anticipate?

In the field, his O2 saturation improved to 100% with a nonrebreather mask. He is fully immobilized and 2 IVs are started en route to the hospital. IV fluids are at a keep open rate. On arrival to the ER, the vital signs are essentially unchanged and the assessment does not reveal any new findings.

The work-up proceeded with these points in mind:

1. With a rollover, a patient is much more likely to be ejected from the vehicle, and if ejected, is three times more likely to have a serious injury or die.
2. Alcohol, drugs, and distracting injuries make the exam unreliable.
3. Capnography is extremely important for monitoring the patient not only for ventilatory status but also for perfusion.

Portable chest x-ray revealed a left clavicle fracture but no evidence of a pneumothorax or hemothorax (Fig. 1).

FAST exam showed free fluid in the LUQ, suspicious for hemoperitoneum (Fig. 2). The cardiac view, hepatic and suprapubic views did not show evidence for free fluid.



Figure 2

Since he remained hemodynamically stable, he went for CT scans of his head, cervical spine, chest, abdomen and pelvis. The head and cervical spine CT were negative for acute findings. The chest CT showed a small left upper lobe pulmonary contusion as well as the left clavicle fracture. The CT of his abdomen and pelvis revealed multiple, diffuse splenic lacerations with hemoperitoneum, grade V classification (Fig 3; Fig 4 on next page).

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Figure 1

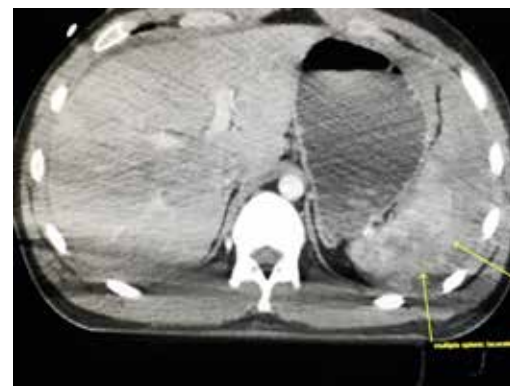


Figure 3

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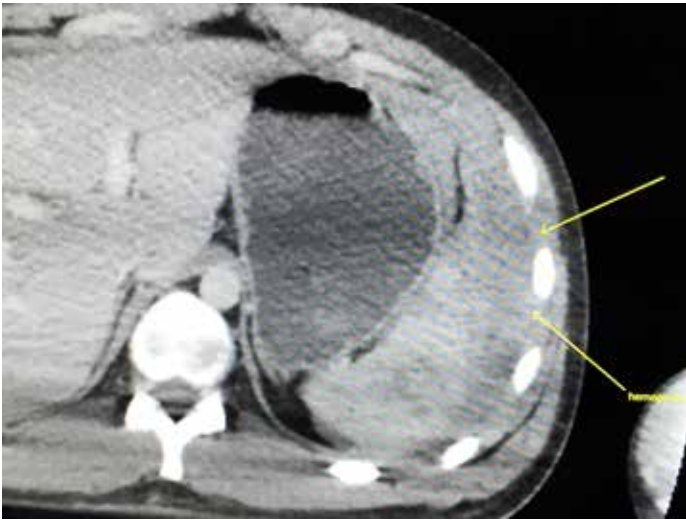


Figure 4

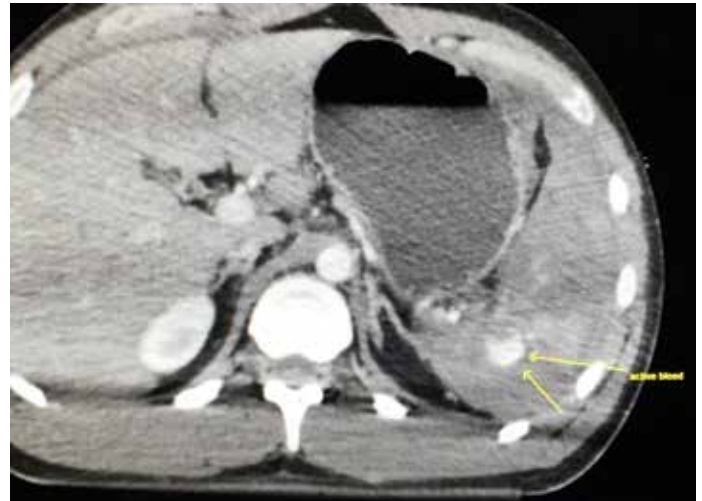


Figure 5

Fig. 5 shows active bleeding. With these findings, interventional radiology could not perform embolization. Also, the patient was at continued risk of persistent bleeding with the spleen unlikely to be salvaged with non-operative management.

The patient was subsequently typed and crossed for four units of packed red blood cells and taken to the OR for exploratory laparotomy and splenectomy. The patient had an unremarkable post-operative course and was discharged on the fifth hospital day.

Discussion

Fifty to seventy-five percent of blunt abdominal trauma (BAT) is due to auto-to-auto or auto-to-pedestrian mechanisms. Other mechanisms are from falls, assaults, industrial or recreational injuries. The spleen and liver are the most commonly injured organs followed by small bowel, colon, kidneys and bladder.

Many injuries do not manifest during initial presentation such as to small bowel, colon or pancreas, which increases morbidity and mortality. Forces that cause injury are

from deceleration, crushing or compression mechanisms.

In regards to BAT, the clinical assessment is difficult and often inaccurate. Reliable signs that may predict intra-abdominal injury include lap belt marks (small intestinal injury), steering wheel-shaped contusions, abdominal distension, lower thoracic cage crepitus and pelvis crepitus.

Focused Assessment with Sonography for Trauma (FAST) has become a staple for emergency department assessment of BAT and has been gaining traction in the prehospital arena, especially in Europe and with air transport. It's rapid, portable, noninvasive and accurate (identifying as little as 30-70 ml of free intraperitoneal blood depicted as a black anechoic stripe). Limitations include cost, training, and operator expertise.

The FAST exam protocol utilizes four acoustic windows with the patient supine: cardiac, hepatic, splenic and suprapubic. Hemodynamically unstable patients with a (+) FAST should go to the OR. Hemodynamically stable patients with a (+) FAST should

have CT imaging to determine specific injuries and possible operative intervention.

The spleen weighs 75-150 grams, is highly vascular filtering 10-15% of total blood volume/minute, holding 25% of circulating platelets in reserve, and has been the subject of numerous research articles discussing nonoperative salvage.

Selective nonoperative management of splenic trauma is the standard of care for both pediatric and adult patients with hemodynamic stability. Splenic artery embolization has been associated with higher salvage rates.

The decision for operative management for splenic trauma is based on clinical signs of peritonitis, uncontrolled shock, clinical deterioration after observation, grade of severity of injury, CT "blush" representing continuous bleeding, risk of rebleeding, or other concomitant injuries.

— Art Proust, MD, FACEP
ITLS Illinois Chapter Medical Director

8th Edition Instructor Update Released

ITLS is proud to present the ITLS 8th Edition Instructor Update, a tool for ITLS instructors to update to the 8th edition ITLS provider manual.

All current instructors are required to complete the 8th Edition Instructor Update before they are allowed to teach from the 8th edition textbook.

The deadline to complete the 8th Edition Instructor Update for all ITLS Illinois instructors has been changed to April 30, 2016 to include those instructors with certification dates current through April.

The 8th Edition Instructor Update is comprehensive and authored by the ITLS Editorial Board to ensure all pertinent materials are covered. A 20-question quiz at the completion of the program ensures a minimum standard of learning has been met. A passing grade of 80% or higher is required; the quiz may be repeated until the passing score is achieved.

The cost is \$35.00 USD. Payment can be made with a credit card or with your bank

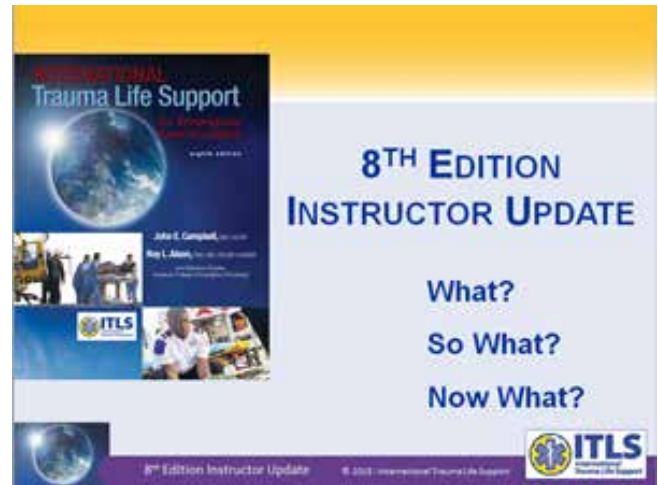
account via PayPal. Access to the online program is instantaneous and can be completed in about 1 hour.

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.

8th Edition Instructor Materials Available Now

All of the materials required to teach the ITLS Provider course from the 8th edition manual have been released and are available to course coordinators and instructors.

The materials were released at the end of November and include:

- Exams
- PowerPoint slides
- Coordinator & Instructor Guide

The materials are distributed by the ITLS Illinois chapter and can be requested from Chapter Coordinator Sue McDonough at suem@icep.org or 630-495-6400, ext.

201. Note that PowerPoint slides and the Coordinator and Instructor Guide are available to all approved instructors and coordinators. To preserve security, access to the exams is granted only to course coordinators.

Exams

Exam resources include Advanced and Basic Post-Tests Versions A and B, Advanced and Basic Pre-Tests, Answer Keys, Annotated Answer Keys, and the Student Answer Sheet. Two versions of each Post-Test allow coordinators a convenient option for retesting students who fail the exam. The

annotated answer keys include the chapter and objective, page reference, and a short rationale for each answer and are available for all pre- and post-test exams.

PowerPoint Slides

PowerPoints are available for all didactic chapters of the Provider manual. PowerPoints are not provided for Skills chapters.

Coordinator & Instructor Guide

Content and the patient scenarios have been completely revised to reflect the 8th edition changes. An updated Scenario Grade Sheet is also included.

New Blended-Learning ITLS Instructor Course Curriculum Launched

ITLS is proud to introduce the all-new ITLS Instructor Course, a Blended-Learning Approach.

This course, which became available at the beginning of December, combines an online component with a classroom component in a program 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>. (You will need to create a new account to complete your purchase.)

The cost of the Instructor Course Online Component is \$45.00 USD. Payment can be made with a credit card, or with a bank account via PayPal. Access to the online program is instantaneous and will take students 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. Modules covered are:

- History & Organization of ITLS
- The Learning Environment
- Learning Styles
- Delivery Methods
- Communication Styles
- ITLS Skill Stations
- Constructive Feedback
- Student Evaluations

The Instructor Course Online Component is approved by the Continuing Education Coordinating Board for Emergency Medi-

cal Services (CECBEMS) 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 CECBEMS 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 hours of CE. This would be approved only one time for each instructor.

Notes from ITLS Illinois: Quick News

New Affiliate Faculty Members Welcomed in 2015

ITLS Illinois would like to recognize the instructors who have been nominated and approved as Affiliate Faculty in 2015:

- Nicholas Fish, RN, EMT-Paramedic, of OSF St. Elizabeth, Ottawa
- Michael Gilbert, NR-Paramedic, of Memorial Hospital, Belleville
- Kevin Holliday, EMT-Paramedic, of MedStar Ambulance, Belleville

Congratulations to all from the ITLS Illinois Advisory Committee.

Advisory Committee Meeting Dates Confirmed for 2016

The 2016 ITLS Illinois Advisory Committee meeting dates have been finalized: Friday, April 15; Wednesday, September 14; 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 participate 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 Order Form Available; Place Orders By Phone

The revised ITLS Illinois Order Form has been updated to include the latest publications and pricing. See Page 7 for a copy. Orders should be placed by calling ITLS Illinois at 630-495-6400, ext. 213.



LEFT: Dr. John Campbell and Dr. Neil Christen welcome conference participants to the Opening Session. RIGHT: Elvis performs "Viva Las Vegas."

Highlights of 2015 Trauma Conference

The 2015 International Trauma Conference, held November 10-13 in Las Vegas, Nevada, was a success with one of the largest attendance counts in conference history. More than 300 trauma care and EMS professionals from 22 countries worldwide attended.

ITLS Illinois was well-represented with 22 providers and instructors in attendance, including a group of first-time attendees from Sublette Fire Department. Serving as Illinois' 8 voting delegates were: Tony Cellitti, CCEMT-P, NREMT-P; Mike Dant, EMT-P; Edward Kemnitz, EMT-P; Missy Mallory, EMT-P; Rosemary McGinnis, RN, BSN; Dave Meiners, NREMT-P, FP-C; Matt Moyes, NRP, CCEMT-P, RN, TNS, ASMC; and Debra Ward, EMT-P.

The conference opened with true Vegas flair: Elvis welcomed participants and performed, while Las Vegas showgirls passed out decks of playing cards.

Illinois attendees were pleased with the changes seen at the International Trauma Conference. Ms. McGinnis said the conference was well-organized, with excellent educational sessions. Mr. Dant also enjoyed the sessions, as well as the ITLS Competition. Mr. Moyes enjoyed the opening session with Elvis, the pediatric presentations, and the new Research Forum topics.

Board of Directors Elections

Three members of the Board of Directors were elected during the conference's Business Session. Serving their first terms on the Board of Directors are Liz Cloughessy, AM, RN, MHN, FAEN, Chapter Coordinator for ITLS Australia & New Zealand, and Mary Hancock, MD, FACEP, Chapter Medical Director for ITLS Ohio. Returning to the Board is incumbent Jonathan Epstein, MEMS, NRP, Vice Chair of the Board and Chapter Coordinator for ITLS Massachusetts.

Jeffery Gilliard, NREMT-P, CCEMTP, FPC, BS, of Florida, was re-elected as Speaker. Amy Boise, NRP, FP-C, of Arizona, was elected Vice Speaker.

ITLS Annual Awards

Five individuals were honored at the conference with ITLS' annual awards.

Roy Alson, PhD, MD, FACEP, FAAEM, Co-Editor and Editorial Board member, was presented with the Jackie Campbell Award. This special award is ITLS' highest honor and recognizes individuals for their enduring service as "the wind beneath our wings." Dr. Alson's tremendous work on the 8th edition Provider manual and instructor materials was gratefully acknowledged.

Qirong Du, MD, Chapter Medical Director for ITLS Shanghai Xin Hua Hospital in China, was presented with the ITLS Am-

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ITLS Illinois voting delegates prepare for the Business Sessions. Pictured: (LEFT PHOTO) Mike Dant, Missy Mallory, Rosemary McGinnis, and Tony Cellitti; and (RIGHT PHOTO) Matt Moyes, Ed Kemnitz, and Dave Meiners.

ILLINOIS ITLS *news*

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.itraumall.org



Upcoming ITLS Illinois Courses

For the most updated list of upcoming courses in 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 a few of the upcoming courses in Illinois:

January 9-10: Combined Provider Certification

Registration: Anthony Cellitti, T 815-971-5205
Shabbona Fire Protection District, Shabbona

January 29: Combined Provider Recertification

Registration: Shelley Peelman, T 217-359-6619
Presence Regional EMS, Champaign

February 5-6: Combined Provider Certification

Registration: Karyn Eisemann, T 618-257-5736
Memorial Hospital, Belleville

Highlights from 2015 Conference

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bassador Award for his work in promoting ITLS programs and demonstrating a clear belief in the ITLS mission. Dr. Du was instrumental in presenting the ITLS Asian Regional Conference in Shanghai in April 2015. Dr. Du was not present to accept his award but it was accepted on his behalf by his colleague, Lujia Tang, MD.

Michael Rushing, RN, BSN, NRP, CFRN, CEN, CPEN, CCRN-CMC, of Florida, was honored with the Pat S. Gandy, RN, ITLS Coordinator of the Year Award. The award recognizes Mr. Rushing's outstanding leadership in promoting ITLS and prehospital trauma training under the Florida chapter.

Linda Sims, RN, of Australia, was presented with the ITLS Instructor for the Year Award, named in honor of Dr. Ray Flower for excellence in teaching and innovation in ITLS programs.

Wm. Bruce Patterson, BaBES, EMT-P, was presented with the ITLS Harvey Grant Memorial Award for outstanding leadership in ITLS Access, recognizing his dedication and efforts on the 3rd edition of the ITLS Access manual, released at the conference.

ITLS Competition

Seven teams competed in the annual ITLS Trauma Competition

at the conference, using the ITLS assessment to triage and treat trauma patients in three creative and challenging simulated scenarios.

For the first time, the Competition was presented during the 2-day conference rather than as a pre-conference event, allowing conference participants to watch the scenarios and earn continuing education credit.

Teams represented Nevada, Niagara EMS, North East Ambulance Service UK, Toronto EMS, West Virginia, and two teams from Slovenia.

The team from Niagara EMS was again declared the winner of the 2015 Competition. Team members were captain Brock Browett, ACP, Emma Santon, PCP, Megan Daza, PCP, and Jonathan Dyck, ACP.

The team from Toronto EMS took second place. The team from North East Ambulance Service in the United Kingdom, first-time competitors, took third place.

The 2016 conference will be held October 27-29 at the Wyndham San Antonio Riverwalk in San Antonio, Texas. We hope many from Illinois will be able to join us again in 2016!