

Figure 1

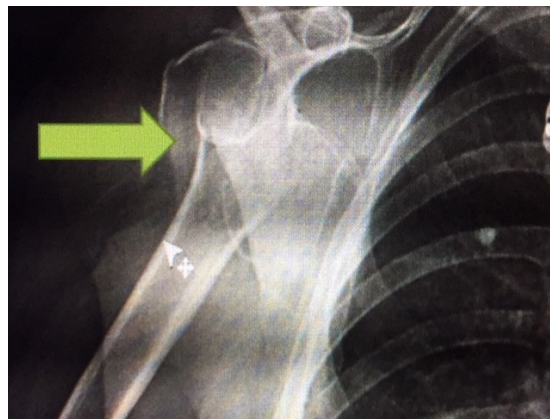


Figure 2



Figure 3

Can You Make the Diagnosis?



**Art Proust,
MD, FACEP**

EMS is dispatched for a 74 year old female who tripped and fell onto her right outstretched hand (FOOSH) stepping over a gasoline hose while filling her car with gasoline at a gas station. She is only complaining of right shoulder pain and tingling to her right hand. What would be your concerns based on this information? What type of trauma evaluation would be performed?

Further history revealed the patient did not strike her head, had no LOC, denied cervical pain, and essentially only complained of right shoulder pain. After determining the scene to be safe without gasoline spillage, the rapid trauma survey revealed an isolated right shoulder injury with pale, cold digits, diffuse sensory loss and an absent radial pulse. Her vital signs were unremarkable and her SAMPLE history yielded no further pertinent information. The patient was treated with a sling and IV fentanyl.

With the EMS field report of a limb threatening injury, the process of trauma activation took place. Upon arrival, the patient was in moderate distress but with stable vital signs. Her trauma survey noted a right shoulder deformity, diffuse sensory loss, cold pale fingers and absent brachial and radial pulses by palpation. Brachial and radial artery pulses were also absent by Doppler. Initial right shoulder x-ray revealed an anterior fracture (thin arrow)/dislocation (thick arrow) (Figure 1).

Multiple attempts at reduction with procedural sedation were unsuccessful (Figure 2).

Orthopedic and vascular surgery consultations were obtained. The patient was taken to the OR for a closed reduction of her shoulder guided by fluoroscopy but there was no restoration of pulses. Vascular surgery subsequently performed a brachial artery exploration and thrombectomy with pulses restored 4 hours post injury. The following day, the patient reported an increase in pain with exam noting reduced sensation and motor function. A CT angiogram of the right upper extremity revealed an intimal injury of the axillary artery and rethrombosis of the brachial and radial arteries (Figure 3). She went back to the OR for stent placement, rethrombectomy of the distal vessels, and axillary artery bypass. The patient did well post operatively.

The primary cause of upper extremity vascular injury is penetrating trauma, whereas only 5–10% of these injuries are caused by

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Can You Make the Diagnosis?

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blunt trauma. Approximately 1-2% involve the axillary artery from shoulder injuries. Shoulder dislocation, hyper abduction, or clavicular fractures are the usual mechanisms of blunt trauma to the axillary artery. Its association with closed proximal humeral fractures is rare.

The most common vascular injuries are partial lacerations and complete transections. Partial laceration causes bleeding or formation of pseudoaneurysms. Complete transection leads to retraction and thrombosis of the ends of the vessels. Injuries to vascular structures can be caused by the following mechanisms: direct injury by the dislocation or displaced fracture fragments, and injury by stretching or tenting of the artery over the fracture and/or dislocation site. The subsequent ischemia may result from one or more of the following causes: spasm from kinking, thrombosis usually caused by intimal dissection, and overstretching of the artery. When vascular injury is present, it is often further complicated by neurological injury. (Isolated peripheral nerve injury is much more likely with shoulder fracture/dislocations with 10% involving the axillary nerve.) Elderly patients appear to be particularly susceptible to vascular injuries due to loss of arterial elasticity.

The most common physical finding is an absent or diminished pulse. However, clinical presentation can be occult

because the axillary artery has 5 major branches providing excellent collaterals about the shoulder girdle (Figure 4, Dr. Netter's shoulder girdle), and a palpable pulse distal to the injury may be present for several hours after the injury, or never disappear. The clinical symptoms represent (at least partly) the classic six P's of Pratt (1954): Pulselessness, Paleness, Pain, Paresthesia, Paralysis, and Prostration.

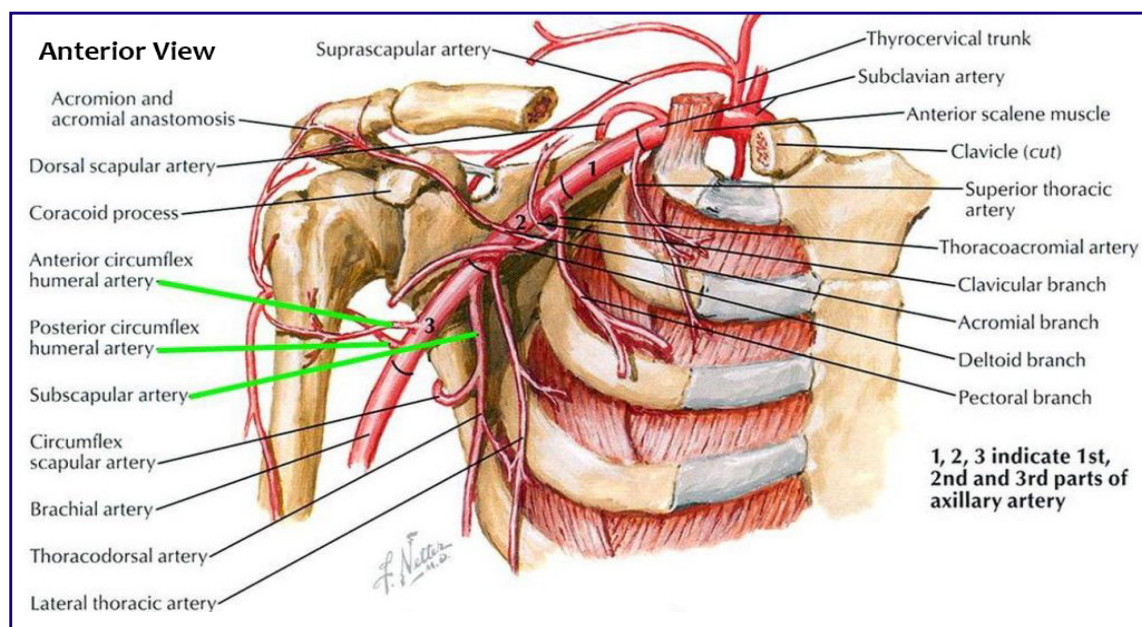
If vascular compromise is suspected, a Doppler examination is required and if shock treatment and/or a single reduction of the fracture/dislocation do not lead to restoration of the blood flow, a CT angiogram is indicated. Small arterial contusions with small limited intimal flaps may be diagnosed only by angiography. A major vascular lesion proximal to the elbow should be repaired (artery and/or vein) and the blood flow must be restored within 6 to 8 hours to salvage the compromised extremity.

Bottom line: Don't be lulled into a false sense of security because of what may

seem to be a benign mechanism. Follow the principles of ITLS assessment so as to identify and manage potential life or limb threatening injuries and transport to the most appropriate trauma center.

REFERENCES

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2. Cutts, S, et al: Anterior Shoulder Dislocation. *Ann R Coll Surg Engl* 2009; 91:2-7.
3. Bravman, JT, et al: Vascular Injuries after Minor Blunt Upper Extremity Trauma: Pitfalls in the Recognition and Diagnosis of Potential "Near Miss" Injuries. *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine* 2008; 16:16-22.



2019 Conference Returning to Vegas

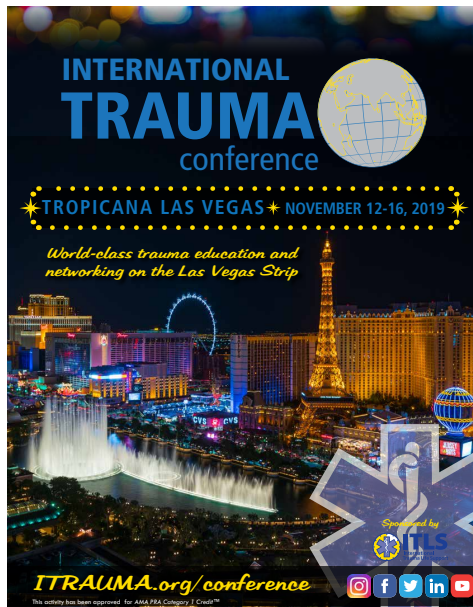
The International Trauma Conference is returning to the Tropicana Las Vegas in 2019! The two-day conference will be held November 15-16, with preconference workshops and other events November 12-14. Register now to attend: Early Registration rates end October 10. Registration is open online at ITRAUMA.org/conference.

The conference room rate at the Tropicana Las Vegas of \$119 per night plus a \$15 daily Resort Fee and 13.38% room occupancy tax includes complimentary guest room WiFi, fitness and pool access, and more. The cutoff date for this rate is October 21, 2019. Make reservations online at ITRAUMA.org/vegas.

Education Highlights

The 2019 agenda focuses on a wide range of hot topics in trauma care, including pediatric trauma, Stop the Bleed, K9 field care, trauma ultrasound, early detection of shock, silver trauma, crew resource management, and more.

The opening keynote address presented by Julie Bacon, MSN-HCSM, CPN, CPEN, C-NPT, RN-BC spotlights extreme pediatric trauma presentations, including atlanto-occipital disassociation and hangman's fracture, with a focus on the higher survival rate in children with early recognition



and intervention. Ms. Bacon will review the unique anatomical and physiological characteristics of pediatric patients that impact trauma care, illustrating how the pediatric baseline changes with injury.

James French, BM, BSc, Dip IMC RCS (Edinburgh), FRCEM (UK), will explore the ramifications of the "human factor" on crew resource management and how key CRM principles should be incorporated into all emergency care systems to minimize preventable human errors and maximize team effectiveness. He will demonstrate the communication, teamwork, and adrenal control skills that contribute to optimized care co-

ordination.

Craig Goolsby, MD, MEd, FACEP, will introduce the Stop the Bleed campaign, a grassroots initiative to increase survival from exsanguinating hemorrhage by engaging laypeople as responders. He will discuss simple steps to apply a tourniquet, research efforts to identify innovative education methods for laypeople, and next steps the trauma community can take to meet the campaign's goals.

Bryan Bledsoe, DO, FACEP, FAEMS, will close the conference with a session that goes beyond vital signs in the detection of shock to recognize the signs earlier and begin essential interventions sooner.

Preconference Workshops

Join ITLS before the 2-day conference starts for hands-on workshops:

- ITLS High Threat Trauma Workshop
- Slap the Cap: A Comprehensive Capnography Workshop
- ITLS Duty to Respond Train the Trainer Workshop
- 9th Edition Instructor Update
- ITLS Leadership Forum
- ITLS Business Session and Awards

Full details of sessions, speakers and more are online at ITRAUMA.org/conference — including the full brochure!

Instructor Renewal Extension Cards Issued

ITLS Illinois is at work to email Instructor renewal extension cards to eligible instructors while awaiting the release of the 9th edition Provider manual in November. To be eligible to receive an extension card, the instructor must have fulfilled his teaching requirements of 3 times in the 3-year certification period.

The extension card will expire one year from the date it is issued. (For example, those expiring in June 2019 received a new card with a June 2020 expiration date.) Completion of the 9th Edition Instructor Update will be required before teaching at a 9th edition course. More information and a link to register for the online update will

be sent to you in November after the program debuts at the 2019 conference.

If you did not receive an extension card and feel that you have met all of the requirements, please contact ITLS Illinois Chapter Coordinator Sue McDonough at suem@icep.org to inquire about your status.



LEFT: Dr. Ray Fowler, one of the original authors of the BTLT textbook and a close friend of Dr. Campbell, shares his favorite stories at the memorial service held at the 2018 International Trauma Conference. RIGHT: Dr. Neil Christen (far left) and Dr. Roy Alson (far right) presented a memorial resolution to the Campbell family, sons Casey and Jason and their spouses.

Dr. John Campbell Remembered with Memorial Service at 2018 Conference

Among the highlights of the 2018 International Trauma Conference in St. Louis, Missouri, in November was a memorial service and tribute to Dr. John Campbell, ITLS founder and president.

The Opening Reception at the conference included a Budweiser toast for all participants in Dr. Campbell's honor. Dr. Campbell's sons, Jason and Casey, were in attendance. After the reception, a memorial service organized by ITLS honored the life and legacy of Dr. Campbell.

The service included a processional, lighting of a memorial candle, and a time of remembrance with speakers that included Donna Hastings, J.T. Stevens, Neil Christen, Roy Alson, Ray Fowler, Casey Campbell, and Jason Campbell. The moving service concluded with a video slideshow set to "Sweet Home Alabama," a fitting choice for Dr. Campbell, a lifelong Alabama resident. The service was well attended and many participants remarked on what a moving service and tribute to Dr. Campbell's legacy it was.

More Highlights of 2018 Conference

Illinois had one of its largest representations ever at the 2018 conference, with 26



ITLS Illinois was well represented at the conference in St. Louis, with 26 total in attendance. Pictured are (left to right) John Peery, Jeremy Hafliger, Karyn Eisemann, Dave Meiners, Greg Love, Art Proust, Ed Kemnitz, Missy Mallory, Mike Dant, Tony Wlodarski, Sue McDonough, Rosemary McGinnis, and Nick Fish.

coordinators, instructors, and providers in attendance. Serving as voting delegates for the chapter were: Eric Brandmeyer, RN, EMT-P, Nick Fish, EMT-P, Ed Kemnitz, EMT-P, Greg Love, EMT-P, Rosemary McGinnis, RN, BSN, Dave Meiners, EMT-P, and Art Proust, MD, FACEP.

Other highlights included:

- Top-notch educational sessions included Dr. Jon Krohmer, Director of the Office of EMS for NHTSA; Dr. Gerald Fortuna on the hot topic of REBOA; and Dr. Bryan Bledsoe with a sobering account of the response to the 2017 Las Vegas mass shooting.
- The Trauma Competition trophy was awarded to Toronto Paramedic Services in 2018.

- Investigators participating in the Research Forum presented 5 different abstracts on a variety of topics throughout the conference. All abstracts are available online at ITRAUMA.org/research.
- Elected to the Board of Directors for their first terms were Richard Bradley, MD, FACEP, of Texas, and Aaron Jeanette, EMT-P, of Indiana. Re-elected were Liz Cloughessy, AM, RN, of Australia, and Jonathan Epstein, MEMS, NRP, of Massachusetts.
- The conference social event was an evening exploring the unique and eccentric City Museum; ITLS participants had so much fun, some stayed until the museum closed at midnight.

ITLS Case-Based Learning Scenarios Released, Available for Download

ITLS is proud to present a new resource for instructors: the Case-Based Learning Scenarios and Scenario Evaluation Rubric.

This release includes an overview of ITLS Case-Based Learning (CBL), a detailed description of the new CBL scenario format, the first two sets of teaching scenarios, and the new Scenario Evaluation Scoring Rubric. The scenario format has been designed specifically to enhance instructors' efficiency and effectiveness when teaching.

These materials will assist instructors with presenting Case-Based ITLS Provider courses that address the cognitive, affective and psychomotor domains of learning for a more intensive ITLS learning experience. Through carefully crafted questions and feedback, ITLS instructors take an active role in facilitating learner understanding and enabling them to integrate the key points and learning objectives.

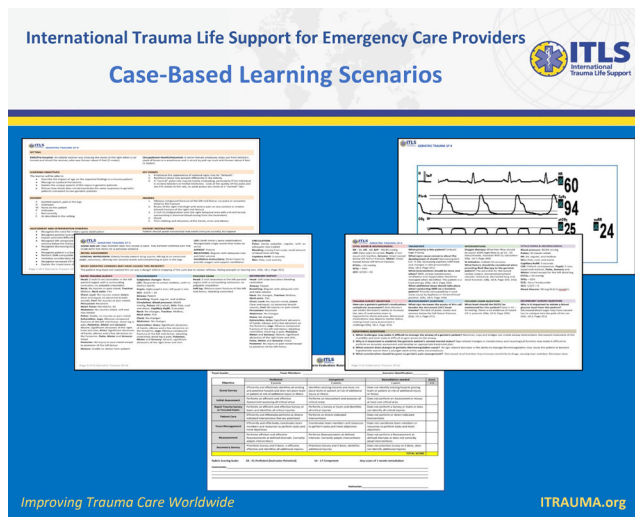
All of the materials can be found online at: www.itrauma.org/instructors/case-based-learning-scenarios/

Reminder: These open-access materials are for practice use during an ITLS course only and should NOT be used for testing.

CASE-BASED LEARNING MATERIALS

Case-Based Learning Scenarios – Version 1.0 – 2019

- Includes 20 practice scenarios as well as overview and explanation of use
- Single, printable PDF document



- Easy electronic navigation through hyperlinked table of contents, bookmarks, and page thumbnails
- Do not use for testing purposes. Testing scenarios will be released in the future.

Scenario Evaluation Rubric – “Fillable” PDF Form

- Use Adobe Acrobat Reader to score students' skill performance electronically!
- Enhances documentation and minimizes input errors
- Allows electronic saving of individual scoring rubrics for course files

How to Use the Fillable Evaluation Rubric

- Short overview of best practices for using the fillable PDF form
- Quick-reference guide to getting started with the rubric

ITLS Case-Based Learning Frequently Asked Questions

- Q&A format of the questions that were raised during the introductory webinar

ITLS Scenario Development Rubric: Possible Solutions for Evaluating Challenges

- A “what if” format to clarify scoring the scenario evaluation rubric, with examples and rationale for how to evaluate

Introductory Webinars

In May and June, ITLS presented two live webinars to discuss orientation and use of the new Case-Based Learning scenarios and Scenario Evaluation Rubric just released. A recorded version of the webinar content is now available

for all who were unable to attend one of the live sessions.

The webinar reviews the process and steps in depth through the materials. It addresses frequently asked questions that arose during the live sessions.

Watch the webinar at the same link: www.itrauma.org/instructors/case-based-learning-scenarios/

What's Coming Next

The ITLS Editorial Board workgroup is at work on additional practice scenarios and testing scenarios for future release. Scenarios will be released in sets of 10 on an ongoing basis with the goal to develop a comprehensive bank of scenario resources for instructors. The CBL Scenarios – Version 1.0 document will be updated to a new version with each new scenario set release to make it easy to ensure instructors have access to the most current materials. All scenarios align with the changes that will be published in the 9th Edition ITLS Provider manual slated for release this fall.

News and Notes from International

ITLS Duty to Respond Course To Be Released This Month

The new ITLS Duty to Respond (DTR) program will be published this month, with the Field Guide available for \$20. The 1-day hands-on practical trauma management course is designed for first responders who have a duty to respond to emergencies. The course focuses on initial patient evaluation and critical interventions required to manage a patient until the next level of care arrives. Course modules highlight scene considerations, rapid trauma patient assessment, shock and bleeding, airway breathing interventions, delayed transport care, reassessment survey, triage and communications.

The target audience includes but is not limited to firefighters, law enforcement officers, security personnel, and all types of first aid and other responders. First aid certification is required as a prerequisite.

Instructor materials will also be released concurrently and will be available at no charge. Watch your email for full details of the DTR release in August!

9th Edition Provider Manual Set for November 2019 Publication

The 9th Edition of the ITLS Provider Manual will be published in November 2019. Instructor materials including the Instructor Guide and PowerPoint slides will be released at the same time.

As with previous editions, instructor materials to accompany the Provider manual will be available electronically to approved instructors and coordinators at no charge. All current ITLS Instructors will be required to complete an online 9th Edition Instructor Update before they are eligible to teach the ITLS 9e course. The 9e Instructor Update will be rolled out immediately following

publication of the 9e Provider manual and supplemental materials. The 9th edition version of eTrauma will be produced within the following year.

The official rollout of the new edition will be during the 2019 ITLS International Trauma Conference in Las Vegas on November 12-16. The textbook price has not yet been set; pre-order information will be announced when the final publication date is confirmed. Watch ITRAUMA.org, social media, and your email for more information!

ITLS Seeks Nominations for Annual Awards

ITLS will honor members who have made exemplary contributions to the organization, its chapters and trauma education. Each year, ITLS acknowledges its finest medical directors, coordinators, and instructors based on nominations from its chapters and training centres. We invite your nominations for the following:

- ITLS Ambassador
- John Campbell Medical Director of the Year Award
- Ray Fowler Instructor of the Year Award
- Pat Gandy Coordinator of the Year Award
- Harvey Grant Memorial Award for Excellence in ITLS Access

Please submit a copy of the nominee's CV as well as a short letter of recommendation for your nominee. Nominations will not be considered without the letter of support. Please send nominations to Kate Blackwelder at kateb@itrauma.org. The deadline to submit nominations is August 30, 2019.

Deadline Approaching to Submit Business Session Resolutions

At the business meeting in November 2018,

a delegate introduced and the membership passed a resolution. This resolution stated that ITLS would create two scholarships/packages that would cover all expenses for two members to attend the International Trauma Conference. One was designated for a person from North America, and one would cover expenses for an individual from outside the USA or Canada.

Resolutions may be adopted by the BTLIS (now ITLS) International Congress with a simple majority vote of those delegates of the International Congress present and credentialed at the annual meeting.

Based on this, the Board of Directors reviewed the resolution and agreed it was out of order and should not have been allowed to be voted upon. The resolution is therefore not in effect.

If members wish to reintroduce this resolution, or any other resolutions for consideration by the Congress, it must be received at the ITLS office by August 18, 2019. Resolutions must be submitted with the knowledge of your ITLS Chapter.

Two Position Papers Published By Editorial Board in May

The ITLS Editorial Board released in May two new position papers of use and interest to ITLS instructors, course coordinators, and students:

- The Use of Cervical Collars in Spinal Motion Restriction
- Damage Control Resuscitation and the Management of Severe Hemorrhage/ Shock in the Prehospital Setting

Download the papers from: www.itrauma.org/current-thinking/topics. Additional new topics will be published in September in anticipation of the 9th edition Provider manual release this fall!

ITLS Illinois Advisory Committee News

ITLS Illinois Advisory Committee Meetings Set for Sept. 27, Dec. 6

There are two meetings of the ITLS Illinois Advisory Committee remaining in 2019: Friday, September 27 and Friday, December 6. Both meetings will be held from 10:00 to 11:30 AM.

Meetings are held at the ICEP office in Downers Grove and available via Skype for videoconference or audioconference participation. Groups may also opt to meet at Illinois Central College in Peoria and Memorial Hospital in Belleville. Chapter Medical Director Dr. Art Proust will be on-site in Belleville for the September meeting, and at ICEP for the December meeting.

As a reminder, all Affiliate Faculty are required to **attend one meeting every 2 years**; videoconference or audioconference meets the attendance requirement. Attendance at additional meetings is optional.

Congratulations on Retirement to Coordinator Dale Tippett

Congratulations to Dale Tippett, EMT-P, on his retirement as the EMS Coordinator for Peoria Area EMS. Dale held the roles of instructor, coordinator and affiliate faculty in the ITLS Illinois chapter from 2009 through 2019. He promoted ITLS, mentored new instructors and taught or coordinated at 130 ITLS courses. We thank him for his dedication to ITLS and the training he has pro-

vided over the past decade. He remains on the instructor list for occasional teaching.

Chapter Coordinator Can Help Facilitate Instructor Networking

Instructors in Illinois are required to teach three times in the 3-year certification period to keep current and be eligible for renewal. If you are not employed by or aligned with an ITLS training facility and need to find courses to instruct at to fulfill this requirement, please contact Chapter Coordinator Sue McDonough at suem@icep.org. She will be happy to help you find a course location near to you and assist you in contacting the course coordinator.

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:

Sept. 20 or Sept. 21: Combined Provider Recertification

Registration: Edward Kemnitz, T 217-428-8641
Decatur Ambulance Training Center, Decatur

Sept. 20-21: Combined Provider Certification

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

Oct. 9: Instructor Classroom Component

Registration: Laura Fowler, T 618-474-6380
OSF Healthcare SCH, Alton

Oct. 10-11: Combined Provider Certification

Registration: Shelley Peelman, T 217-359-6619
East Central IL EMS System, Champaign

Oct. 15: Combined Provider Recertification

Registration: Jason Wright, T 217-258-2403
Sarah Bush Lincoln EMS, Mattoon

Oct. 15: Combined Provider Recertification

Oct. 16-17: Combined Provider Certification

Registration: Danelle Geraci, T 309-624-4638
PAEMS, Peoria

Oct. 19-20: Combined Provider Certification

Registration: Jason Wright, T 217-258-2403
Sarah Bush Lincoln EMS, Mattoon

Nov. 7-8: Combined Provider Certification

Registration: Eric Brandmeyer, T 618-391-6516
Anderson Hospital, Maryville

Nov. 14-15: Combined Provider Certification

Registration: Dean Buch, T 618-779-5690
MedStar Ambulance, Belleville

Dec. 5-6: Combined Provider Certification

Registration: Dennis Stanford, T 618-463-5243
OSF Healthcare SCH, Alton

Dec. 17-18: Combined Provider Certification

Registration: Dean Buch, T 618-779-5690
MedStar Ambulance, Belleville