

Can You Make the Diagnosis?



**Art Proust,
MD, FACEP**

A 32-year-old female was an unrestrained driver involved in a two-car MVC, without airbag deployment and the vehicle sustaining significant front end damage. She was, upon EMS initial assessment, confused and combative; her c-spine was immobilized in the field.

On arrival to the ER, her exam noted confusion, continued resistance to evaluation, and left upper extremity weakness. Her treatment in the ER consisted primarily of airway control, supportive treatment and further evaluation by the trauma surgeon, neurosurgeon, and intensivist. Laboratory work up was negative for metabolic abnormalities. CT scans of her head, c-spine, chest, abdomen, and pelvis were negative. Left humerus x-ray was also negative.

Patient was admitted and subsequently extubated as her mental status improved. Inpatient ophthalmology consult for a com-

plaint of blurred vision in her left eye did not note any abnormalities. Neurologically she was intact, without left upper extremity weakness. Flexion and extension cervical spine x-rays were suspicious for ligament laxity and she was discharged after three days in a hard cervical collar.

Neurosurgery follow-up two weeks after the MVC noted the patient complained of neck pain and left hand numbness. MRI of her cervical spine and left brachial plexus did not reveal any abnormalities that correlated with her symptoms. Six days later, her symptoms progressed to also include tingling and numbness to her face, slurred speech, and left upper extremity numbness and weakness.

Can you make the diagnosis?

A CT angiogram of her neck with and without contrast was obtained that showed bilateral internal carotid artery dissections and dissections of both vertebral arteries. Figure 1 shows the right internal carotid artery (ICA) with the dissection just superior to the arrow as there is a short segment where no contrast is seen.

Figure 2 shows the left ICA dissection and Figure 3 reveals a left ICA pseudo aneurysm.



Figure 1

While the incidence of cervical artery dissection is very low, it is a common etiology of stroke in adults younger than 50 years of age, causing up to 10% of cases. The incidence of traumatic cervical artery dissection is 1 per 1000. Cervical arterial dissec-

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Figure 2

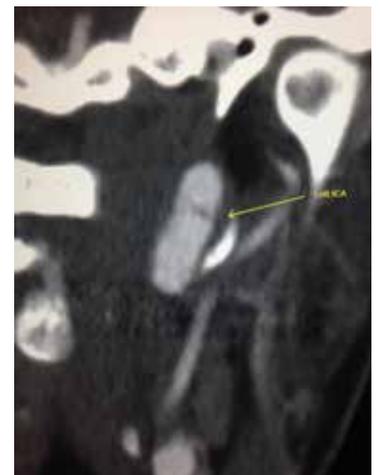


Figure 3

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tions most commonly occur in the carotid arteries, followed by the vertebral arteries. Dissection is caused by an intimal tear leading to bleeding into the vascular wall, which can lead to vessel occlusion, thrombus with potential distal emboli, aneurysm formation, and subarachnoid hemorrhage. Arteries are most prone to dissection when they are stretched over bony prominences.

Carotid artery dissection usually occurs just above the common carotid artery bifurcation as it travels over C2-3. Vertebral artery dissection most commonly occurs at C1-2, due to compression of the vessel against the C2 foramina with head rotation, and at C5-6.

Early presentation is very subtle and often overlaps with common causes of headache and neck pain. 80% of cervical artery dissections are preceded by trauma to the head or neck. Dissection has been associated with chiropractic manipulation, weight lifting, roller coasters, and wrestling, but also has been associated with benign activities as yoga, vomiting, massage, and swimming such that the patient may not remember it. The average time from

traumatic event to onset of symptoms is 2-3 days. Ischemic stroke occurs in up to 86% of all dissections and is the presenting symptom in 70%.

While affecting only 8% of patients, the symptoms of headache, same sided (ipsilateral) miosis and ptosis (partial Horner's syndrome) and opposite sided (contralateral) stroke symptoms are very concerning for carotid artery dissection. Headache of carotid artery dissection, present in 75% of patients, may be gradual or thunderclap, and may resemble migraine type headaches. Neck pain is common anterolaterally up to the jaw and ear. Cranial nerve palsies are present in about 10% of patients.

Vertebral artery dissections present with unilateral headache plus lateral medulla ischemia (ataxia, ipsilateral hemiplegia, and contralateral loss of pain and temperature). Patients may also complain of double vision, dizziness and vomiting.

Plain head and cervical spine CTs as well as brain or cervical spine MRIs will not diagnose cervical artery dissections; if suspected, the imaging modality of choice is either

cerebral/cervical CT or MRI angiography. Most patients with dissection present much later than the 3-hour symptom window for tPA, and the dissection must be limited to extra-cranial vessels in order for tPA to be considered. New research suggests endovascular stenting may improve neurologic recovery in dissection patients in the acute phase of a stroke.

The long-term treatment of cervical artery dissections is anti-platelet therapy of 325 mg daily aspirin or anticoagulation with warfarin for 3-6 months. Both have been shown to reduce the progression to ischemic stroke, and neither have an advantage over the other.

In this case, the patient was admitted with her stuttering neurological findings that had resolved. Brain MRI revealed a small right frontal lobe infarct. She was started on Lovenox and switched to Coumadin prior to discharge. Patient has continued to do well post discharge.

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

New Instructor Curriculum to Debut in May

ITLS International will debut a new ITLS Instructor program this spring. The curriculum is expected to be completed and ready for use in May.

The new curriculum will be a two-part blended learning program. Potential instructors will first complete a 3-hour online course to be purchased through ITLS International (cost is still to be determined).

The online course focuses on training better instructors with education on key adult learning principles such as the learning

environment, learning styles, communication styles, and more. Course modules are interactive and include video examples to illustrate the course's core teachings.

After completing the online course component, the potential instructor will receive a certificate of completion to take to an in-person course for skills training and testing procedures.

The Day 2 in-person course will be facilitated by course coordinators with assistance from the the Chapter just as the Instruc-

tor Course currently is. (Coordinators may charge a fee for Day 2.) New resources for the Day 2 course are also in development and will be released this spring.

The new ITLS Instructor Course will be applicable for new instructors only. The two-part program will replace the traditional 8-hour, in-person Instructor Course.

Watch for more information about the debut of the new program at ITRAUMA.org, social media, and email.

Community Feels Loss of Coordinator, Friend



**Amy Ludford,
RN, BSN, EMT-P**

The ITLS Illinois and EMS communities lost a valued member when Amy Ludford passed away unexpectedly on June 4, 2014. She was 61.

Amy served as an ITLS Illinois affiliate faculty and coordinator for more than 20 years, and also served on the Advisory Committee. As the Director of EMS at Vista Health, she worked closely with colleagues to coordinate ITLS courses in the Waukegan area. She also served as a delegate representing ITLS Illinois at several

recent International Trauma Conferences.

Amy achieved her RN degree from the College of Lake County and later, her BSN from Olivet. She was a trauma nurse specialist and obtained her paramedic certification in 1988.

From 1988 to 2012, Amy served as the Director of EMS at Vista Health; EMS Coordinator of Region 10; EMS Coordinator of Northeast Lake County; and a paramedic/EMT instructor. In 2013, Amy was promoted to EMS director.

Amy's dedication and involvement were well known throughout the ITLS Illinois and EMS communities, and she will be greatly missed.

ITLS Illinois Course Fees to Increase Starting April 1

All coordinators are asked to make note of changes to the ITLS Illinois student fees that will take effect later this year.

As the result of an increase in the ITLS International fee charged for all students, ITLS Illinois student fees will also increase for all courses scheduled conducted on April 1, 2015 and later.

Since the Chapter started in Illinois over 25 years ago, the fees charged by the Chapter have only been increased once. The ITLS Illinois Chapter was also able to maintain its fees when the International fees increased in 2008 and 2005.

The new fees for ITLS Illinois students

(pass or fail) starting April 1, 2015 will be:

- Advanced: \$35
- Basic: \$25
- Pediatric: \$20
- Access: \$20
- Instructor: \$0

As shown above, there will no longer be any ITLS Illinois fee for new ITLS Instructors. Currently, Instructor Recertification students are not subject to the ITLS IL fees. Beginning with all courses as of April 1, 2015, both new Instructor and Instructor Recertification students will not be subject to any ITLS IL fee.

Courses that end on or before March 31, 2015 are subject to the current fee schedule.

Notes from ITLS Illinois: Quick News

New Affiliate Faculty Members Welcomed in 2014

ITLS Illinois would like to recognize the instructors who have been nominated and approved as Affiliate Faculty in 2014:

- Darren Davis, EMT-P, MBS, of Litchfield
 - Louis Hondros, DO, FACEP, of Chicago
 - John Lewis, EMT-P, of Waukegan
 - Al Ponton, BSN, RN, EMT-P, of Kankakee
- Congratulations to all from the ITLS Illinois Advisory Committee.

Congratulations to Affiliate Faculty Jill Pendegrass on Her Retirement

ITLS Illinois congratulates long-time Affiliate Faculty and Course Coordinator Jill Pendegrass, RN, on her retirement. Ms. Pendegrass retired in September 2014.

Ms. Pendegrass served as the EMS System Coordinator at Memorial Hospital in Belleville. She was a certified ITLS instructor for more than 15 years and served as affiliate faculty in Illinois since 2000. Ms. Pendegrass was honored by ITLS International in 2007 as the recipient of the Pat S. Gandy Coordinator of the Year Award.

ITLS Illinois Policy and Procedure Manual Revision Now Available

A draft revision of the ITLS Illinois Policy and Procedure Manual is now available to ITLS Illinois committee members, course coordinators, and affiliate faculty.

Request the draft by contacting Chapter Coordinator Sue McDonough at suem@icep.org. After final approval by ITLS International, the P&P manual will be posted to the ITLS Illinois website.

ITLS Illinois Begins Issuing 1-Year Instructor Renewal Extension Cards

Are you a current ITLS Instructor whose card is expiring? Wondering what to do to renew your Instructor status?

ITLS Illinois is at work to send Instructor renewal extension cards to eligible instructors in the month that they expire, to arrive around the 20th of the month. 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 January 2015 received a new card with a January 2016 expiration date.) The one-year extension will renew your Instructor certification until the 8th

Edition ITLS manual and corresponding 8th Edition Instructor Update Online become available this fall.

Completion of the 8th Edition Instructor Update will be mandated by ITLS International for all instructors in all chapters to prepare them to teach using the new manual. More information and a link to register for the update will be sent to you in October.

Extension cards have been mailed for instructors whose cards were expiring in January and February.

Those instructors who have not taught the required 3 times are being sent a personal email, alerting them to the amount of additional teaching required to receive their

extension card. They are allowed a grace period to complete through June 2015. Cards will not be issued until the requirements are met.

Note that each instructor also will be required to teach 1 time in the coming year to be eligible to renew using the 8th edition update online. The recertification issued from the 8th edition instructor update will be for the standard 3-year certification period.

If you do 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.

News & Notes from ITLS International

8th Edition Provider Manual Set for Fall 2015 Publication

The 8th Edition of the ITLS Provider Manual will be published in fall 2015. 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 8th Edition Instructor Update before they are eligible to teach the ITLS 8e course. The 8e Instructor Update will be rolled out in the fall immediately following publication of the 8e Provider manual and supplemental materials.

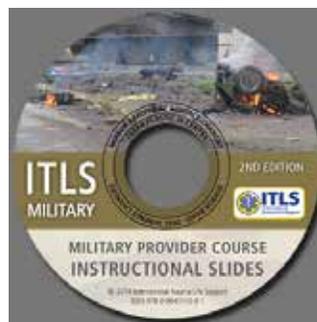
The 8th edition version of eTrauma will be produced within the following year.

The official rollout of the new edition will be during the 2015 ITLS International Trauma Conference in Las Vegas on November 10-13. 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!

2nd Edition Spanish Provider Manual Translation Released

The 7th edition provider manual has been

translated to Spanish by the ITLS Spain chapter and will be ready for purchase in January 2015. The translation is available in hard copy and as an eBook.



Revised Military 2nd Edition Slide Set Now Available

The revision to the 2nd Edition ITLS Military slides has been completed and the updated slide set is available for purchase. Those who had purchased the slides previously will receive the

new slides at no cost. Instructors eligible to teach the Military course must have past or current military background. Those who taught the 1st edition of the ITLS Military course may teach the 2nd edition.

Highlights of 2014 Trauma Conference

The 2014 ITLS International Trauma Conference, held November 5-7 in Cleveland, Ohio was a success. More than 225 trauma care and EMS professionals from 12 countries worldwide attended.

ITLS Illinois was represented by 8 voting delegates at the conference, including Tony Cellitti, CCEMT-P, NREMT-P, Mike Dant, EMT-P, Jeremy Hafliker, EMT-P, Edward Kemnitz, EMT-P, Rosemary McGinnis, RN, BSN, Dave Meiners, NREMT-P, FP-C, Art Proust, MD, FACEP, and Melissa Stokes, EMT-P. Also in attendance from Illinois were Brad Bull, Darin Longanecker, and Andy Schultz.

Among the highlights of the conference were high-quality educational sessions, including sessions on concussions in athletes and TXA. The social event at the Rock and Roll Hall of Fame featured a performance by ITLS Ohio Medical Director Mary Hancock, MD, FACEP's band, and everyone in attendance had a great time.

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 Eric Roy, MBA-HCM, BMaSc, CD, OSJ, of Ontario, and Chen Zhi, MD, of China 120. Returning to the Board is incumbent Peter Macintyre, ACP, of Ontario.

ITLS Annual Awards

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

Gerhard Walter, of ITLS Germany, was presented with the ITLS Medical Director of the Year Award, named in honor of ITLS founder Dr. John Campbell for outstanding leadership and medical direction of ITLS.

Stephen Smith, ITLS' former liaison to Pearson, was honored with the ITLS Ambassador Award for his belief in and promotion of the ITLS mission. The award recognizes



Representing ITLS Illinois as voting delegates at the Business Sessions were (back row, left to right): Jeremy Hafliker, Edward Kemnitz, Melissa Stokes, Art Proust, Tony Cellitti, Mike Dant; (middle row) Rosemary McGinnis; and (front) Dave Meiners.

dedication to ITLS and efforts to make the organization stronger.

Brian Rice, ACP, of ITLS Ontario, 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.

ITLS Competition

Four teams competed in the annual ITLS Competition at the conference, using the ITLS assessment to triage and treat trauma patients in 3 creative and challenging simulated scenarios. Teams represented British Columbia Emergency Health Services, Niagara EMS, Slovenia, and Toronto EMS.

The team from Niagara EMS were declared the 2014 winners. Team members were



ITLS Illinois delegates and staff enjoy the social event at the Rock and Roll Hall of Fame. From left: Tony Cellitti, Melissa Stokes, Lora Finucane, Mike Dant, Rosemary McGinnis, Kate Blackwelder and Sue McDonough.

Brock Browett, ACP, Jonathan Dyck, ACP, Sam Pauls, ACP, and team captain Len Kowalik, ACP, BSc.

The 2015 conference will be held November 10-13 at the Tropicana Las Vegas, a Doubletree by Hilton Hotel, in Las Vegas, Nevada. We hope many from Illinois will be able to join us!

ILLINOIS ITLS *news*

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2015 Advisory Committee Dates

The ITLS Illinois Advisory Committee has three meetings scheduled in 2015. The meeting dates are:

- **Wednesday, April 15, 2015**
- **Wednesday, September 9, 2015**
- **Wednesday, December 9, 2015**

Meetings are held from 10:00 AM to 12:00 PM 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.

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:

April 10: Combined Provider Recertification

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

April 11-25: Advanced Provider Certification

Registration: Scott Anderson, T 815-759-8042
A-TEC Ambulance Service, Crystal Lake

April 14: Combined Provider Recertification

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

April 15-16: Combined Provider Certification

Registration: Deb Ward, T 630-938-8464
Delnor Hospital Geneva

April 18-19: Combined Provider Certification

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

May 22-23: Combined Provider Certification

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

May 28-29: Combined Provider Certification

Registration: Debbie Woelfel, T 618-258-9930
Alton Memorial Hospital EMS, East Alton

May 28-29: Combined Provider Certification

Registration: Dean A. Buch, T 618-223-4378
MedStar Ambulance, Inc., Belleville

June 23: Combined Provider Recertification

Registration: Dale Tippet, T 309-624-2091
Peoria Area EMS, Peoria