

Can You Make the Diagnosis? A Blunt Traumatic Penetration Case Study



Art Proust, MD, FACEP (with Tony "Klinger"

(with Tony "Klinger" Cellitti, NREMT-P / FFIII at the 2009 Conference M*A*S*H Bash) series of cases illustrating traumatic penetrations and also to highlight the release of the new 3rd edition ITLS Pediatric textbook, this issue will examine the case of a pediatric trauma patient.

To continue our

Paramedics were called to the scene of a 17-year-old female who in-

jured herself riding a moped. The patient fell off her moped at an estimated speed of 20-25 mph and sustained a laceration to her right thigh. She was minimally separated from the moped. The patient was not helmeted; she did not lose consciousness; nor did she have amnesia for the event.

Based on her mechanism of injury, a Rapid Trauma Survey was performed as part of



her primary survey. Spinal motion restriction was initiated. Her exam was remarkable for a large puncture laceration of her right proximal medial thigh. PMS function was intact. Her vitals were pulse of 74 beats per minute, respirations of 12 breaths per minute, and blood pressure of 95/54. Her SAMPLE history was unremarkable except for the mechanism of injury and that she last ate two hours prior to her injury. The ITLS Secondary Survey revealed no other findings.

Upon arrival to the emergency department, the patient's vitals were essentially unchanged except that her BP was 105/60. The ITLS Primary Survey was repeated, and the large medial proximal thigh laceration was noted to extend into muscle; however, her foot was now cool, pale and dusky. She had weak flexion of her first and second toes and was unable to flex her third, fourth and fifth toes. Additionally, she was unable to extend her first and second toes. There was no palpable or Doppler doralis pedis or posterior tibial pulses. Proximally, her femoral pulses were intact. What is your diagnosis?

The patient's C-spine was cleared following the Primary and Secondary Surveys. The trauma surgeon was called immediately after her assessment and a RLE arteriogram was performed (Figure 1). The arteriogram revealed a mild irregularity of the proximal superficial femoral artery (red arrow) which may have represented a traumatic occlusion from a thrombus or a possible partial disruption.



Figure 1: RLE arteriogram with arrow pointing at a mild irregularity of the proximal superficial femoral artery.

The patient went to the OR where surgery revealed her superficial femoral artery was intact but appeared contused and went into spasm with a segment of the artery clotted. Thromboembolectomy was performed with heparin and a 4 cm thrombus was retrieved with restoration of blood flow. Also of interest, the patient's superficial femoral vein was also found to be clotted. A thrombectomy was performed, and she was transiently anticoagulated.

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Highlights of 2009 ITLS Trauma Conference

The 2009 International Trauma Conference on November 4-8, 2009, in Charlotte, North Carolina was a success, attracting 240 physicians, nurses, and EMS personnel from 14 countries and territories worldwide.

Representatives from Australia, Brazil, Canada, Colombia, Italy, Japan, The Netherlands, Palestine, Poland, Saudi Arabia, South Africa, Puerto Rico, U.S. Virgin Islands, and the United States were in attendance.

More than 10 ITLS Illinois faculty were able to attend the conference, including: Art Proust; Tony Cellitti; Deb Niedermier; Deb Ward; Rosemary McGinnis, Julie Brumley; Dave Meiners; Andy Schultz; Matt Moyes; Walter Bradley; and staff members Scot Allen and Sue McDonough.

The conference's Opening Session kicked off with the Charlotte Fire Department's



Among the individuals representing the ITLS Illinois chapter at the conference (back row, from left) were: Andy Schultz, Rosemary McGinnis, Deb Ward, Art Proust, Julia Brumley, and Tony Cellitti (front center).

Honor Guard and full Pipe and Drums.

North Carolina ITLS organized the conference's social event, the M*A*S*H Bash. Participants came dressed for the occasion in army fatigues, scrubs, and even bathrobes (in homage to Hawkeye) and were greeted at the door with ITLS dog tags.

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The complete ITLS Illinois delegation poses for a picture at the M*A*S*H Bash, the conference's social event. Pictured are: Dave Meiners, Rosemary McGinnis, Sue McDonough, Scot Allen, Deb Ward, Deb Niedermier, Andy Schultz, Art Proust, Matt Moyes, Joyce Proust, Julia Brumley, Tony Cellitti, and Walter Bradley.

Case Study: Can You Make the Diagnosis?

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Although prolonged, the patient's postoperative course was unremarkable and she had a good recovery of strength and function.

The suspected mechanism of injury was a traumatic penetration by the moped's handlebar. Handlebar trauma has been well documented in children, with spleen, liver and pancreatic lacerations and renal injuries the most commonly traumatized sites. Other reported injuries include traumatic abdominal wall hernias and ruptures, common bile duct transection, traumatic arterial occlusion, and groin injuries. Presumably, the handlebar acts as a spear, concentrating what may be a relatively small amount of energy into a focal point of injury.

In this case, the mechanism of injury plays a significant role in determining your suspicion for a significant injury, and this case reinforces how ongoing exams are crucial in picking up changes in the initial presentation.

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



Dr. Proust, ITLS Illinois Medical Director, poses with ITLS president and founder John Campbell, MD, FACEP at the conference social event.

ITLS eTrauma Online Course Rolled Out at International Conference

ITLS' newest educational program, *ITLS eTrauma: Taking Trauma Training Online*, is now available for students as a new tool for trauma training and education.

The online course made its debut to the public at the 2009 International Trauma Conference in Charlotte in November.

ITLS eTrauma covers the eight hours of ITLS Provider classroom instruction, training students on the core principles of rapid assessment, resuscitation, stabilization and transportation of trauma patients.

The program was developed by the ITLS Editorial Board in 2009 to make ITLS education more interactive, flexible, accessible, and affordable for all. The program can be used as a stand-alone education program for continuing education, or in conjunction with a Completer Course for ITLS Provider certification.

Because of the program's comprehensive approach (based on the 6th edition *ITLS for Prehospital Care Providers* manual), ITLS eTrauma is appropriate for all levels of EMS personnel—from EMT-Bs and first responders to advanced EMTs, paramedics, trauma nurses and physicians.

The course includes 13 multimedia interactive lessons that correspond to chapters in the 6th edition ITLS Provider Manual:

- Scene Size-up
- Assessment and Initial Management of the Trauma Patient
- Initial Airway Management



- Thoracic Trauma
- Shock Evaluation and Management
- Head Trauma
- Spinal Trauma
- Abdominal Trauma
- Extremity Trauma
- Burns
- Special Situations in Trauma (including Trauma in Children, the Elderly, and Pregnancy, and Patients Under the Influence of Drugs or Alcohol)
- Trauma Cardiopulmonary Arrest
- Standard Precautions in the Prehospital Setting

Lessons feature video clips, quiz questions, click-and-drag matching exercises, new case studies, and other interactive activities to help students get the most out of the online course. Each lesson includes approximately 30 screens of reading material and activities. At the conclusion of each lesson, students will take a 10-question Lesson Quiz to test their knowledge. A score of 70% or higher is required to mark the lesson complete. The ITLS eTrauma program has been developed in conjunction with Pearson Learning Solutions and will be hosted online through a Pearson-owned platform.

The ITLS provider text will be required for all ITLS eTrauma students; the textbook will be shipped to the student with an access code to begin ITLS eTrauma online. The complete ITLS eTrauma program cost is \$132 (including textbook) and is available for purchase online at www.itrauma.org/eTrauma.

Successful completion of the ITLS eTrauma online course provides 8

hours of continuing education credit from CECBEMS. Students will receive a Course Completion Certification at the end of the program. The printable PDF certificate includes verification of CECBEMS credit hours and will also be required for entry into a Completer Course, should the student wish to pursue ITLS Provider certification.

Completer Course

Students who wish to become ITLS certified may take an in-person Completer Course upon successful completion of ITLS eTrauma online.

The Completer Course will include the standard ITLS Written Exam as well as demonstration, practice, and testing of the Provider Course skills station. Students will earn 8 additional hours of CECBEMS credit and an ITLS Advanced or Basic Provider card upon successful completion of this course.

For more about the new Completer Course, please see the story on the next page.

New ITLS Completer Course Policy In Place

The ITLS Board of Directors has approved the following policy related to the coordination and administration of Completer Courses.

COMPLETER COURSE POLICY

The ITLS Completer Course is an 8-hour course designed to be used in conjunction with the ITLS eTrauma: Taking Trauma Training Online course, ITLS' online education program that covers the eight hours of ITLS Provider classroom instruction in a selfpaced, Internet-based format.

The Completer Course is open to any student seeking ITLS Provider (Advanced or Basic) certification who meets the traditional prerequisites for Provider certification and has successfully completed the full ITLS eTrauma program.

The Completer Course must be conducted by certified ITLS Instructors.

Rationale: This course has been developed to provide students who have already taken ITLS eTrauma a setting in which to learn, practice, and demonstrate proficiency of the necessary skills that comprise the practical assessment of the ITLS Provider course, thus earning ITLS Basic or Advanced certification. Used in conjunction with ITLS eTrauma, the Completer Course provides a flexible alternative to the traditional 2-day in-person ITLS Provider course as a method for earning ITLS certification. This course assumes the provider has prepared for this class by reading the current edition of the International Trauma Life Support for Prehospital Care Providers textbook and completing the full ITLS eTrauma course. The student will take both the written exam and the patient assessment practical skills assessment as part of the Completer Course. This standardization mechanism ensures that ITLS quality standards are met for all ITLS certified Providers.

Necessary Prerequisite: The prerequisite for registering for a Completer Course is successful completion of the complete ITLS eTrauma: Taking Trauma Training Online course within a 12 month period, demonstrated by a valid Course Completion Certificate printed at the conclusion of the ITLS eTrauma program. Only students who present this document will be allowed to take a Completer Course for ITLS Provider certification.

Requirements for Certification: The candidate must attend all skills station demonstrations and practice, and obtain a written test score of at least 74% and at least "Adequate" on the patient assessment test. The local ITLS chapter may require a higher score.

Following successful completion of the Completer Course, the provider will be certified as an ITLS provider (Basic or Advanced). **Instructor Candidates:** The candidate must achieve greater than 88% (29 correct answers on 33 questions) on the written test, "Excellent" on patient assessment, and be recommended as a potential instructor by an affiliate faculty during the Completer Course. Instructor candidates are subject to the same requirements as those who complete the traditional Provider course including completing the ITLS Instructor course and being monitored teaching.

Certification Length: Three years (some Chapters require 2 years or extend to 4 years).

Recertification: The provider must attend an approved ITLS Advanced or Basic provider recertification course prior to the expiration date on the card. Alternately, the provider must complete a certified ITLS provider course or complete both the ITLS eTrauma and Completer Courses. The local chapter or International office may decide which is appropriate.

Recommended Course Length: Eight (8) hours.

Required Text: Current edition of ITLS Provider Manual.

A Completer Course Tool Kit, including sample agendas, will be available from ITLS Illinois at the beginning of 2010.

Summary of ITLS Illinois Training for 2009

ITLS Illinois coordinated 106 courses in 2009, with the number of students certified expected to exceed 1,700 when all rosters are submitted. This is an increase of more than 150 students from 2008.

There are still outstanding course rosters for approximately 10 courses run during the third and fourth quarters of 2009, so training numbers will continue to increase. At the time of publication, ITLS Illinois had certified 1,001 Advanced Providers, 568 Basic Providers, 61 Instructors, and 9 Pediatric Providers.

In 2008, ITLS Illinois ran 104 total courses, with 493 Advanced Providers, 167 Basic Providers, 494 Combined Providers, 381 Instructors, and 0 Pediatric Providers (Instructor certifications increased in 2008 because Illinois instructors were required to update to the 6th edition textbook.)

With the recent release of the 3rd edition ITLS Pediatric manual, ITLS Illinois hopes that the numbers of Pediatric Providers trained will continue to grow in 2010, as the Advisory Committee is interested in renewing interest in this program throughout Illinois.

3rd Edition ITLS Pediatric Instructor Materials Now Available for Order

The instructor materials that accompany the 3rd edition of *Pediatric Trauma Life Support for Prehospital Care Providers*, for the ITLS Pediatric provider course, are now available.

Pricing & Ordering

Instructor materials include a revised Coordinator & Instructor Guide and the Provider Course Instructional Slides on CD.

The Coordinator & Instructor Guide sells to the public at a cost of \$30 per book. The set

of Provider Course Instructional Slides sells for \$25.

Or, save \$5 by ordering the complete ITLS Pediatric Instructor Tool Kit, which includes both items. The Instructor Tool Kit sells for \$50.

To place an order today, visit the ITLS Illinois Bookstore online at www.itraumalL.org or call ICEP at 630-495-6400, ext. 213, to order.

What the Materials Include

The Pediatric Trauma Life Support Coordinator & Instructor Guide provides everything you need to know about running an ITLS Pediatric course from start to finish, updated to reflect the most current principles of pediatric trauma care found in the 3rd edition course manual. This resource for course coordinators and instructors guides you through pre-course planning, course execution, and post-course wrap-up.

Additional features include:

- Eight new Patient Assessment Scenarios for practice and testing
- Detailed equipment lists



- Step-by-step timelines for course planning
- Sample Course Agenda
- "Guide for Instructors" and "Students' Guide to ITLS Pediatric" chapters suitable for faculty and student handouts

The *Pediatric Trauma Life Support Provider Course Instructional Slide Set* includes 5 PowerPoints with a total of more than 125 illustrated slides covering each lecture section of the ITLS Pediatric course:

- The Injured Child
- Assessment of the Pediatric Patient
- Thoracic-Abdominal Trauma
- Head & Spinal Injury
- Special Considerations in Pediatric Trauma

The disc also includes Speaker Notes and Slide Guide Student Handouts for each slide set. These extras are included as print-friendly PDFs for easy access.

3rd Edition ITLS Pediatric Tests

A series of new tests has been developed to correspond to the 3rd edition textbook as well. Advanced- and basic-level pre-tests, post-tests and re-tests have been developed and are available by contacting Chapter Coordinator Sue McDonough at 630.495.6400, ext. 201, or by email at suem@ icep.org.

"What's New in the 3rd Edition" Resource Sheet

A resource sheet of changes to the 3rd edition of *Pediatric Trauma Life Support for Prehospital Care Providers* has also been developed for course coordinators to use when updating their instructors and teaching from the new textbook.

The informational sheet examines the text chapter by chapter, highlighting the changes made. This sheet, suitable for distributing to instructors or provider recertification students, is also available from the ITLS Illinois office by contacting Sue McDonough.

Pediatric Instructor Update PowerPoint

Most recently, ITLS has released a short PowerPoint presentation that can be used to update current Pediatric Instructors to the 3rd edition ITLS Pediatric manual. The presentation reviews the changes found in the new textbook so that instructors are teaching the most up-to-date information.

The Pediatric Instructor Update slide set is available at no charge by contacting Sue McDonough.

ITLS Illinois plans to hold two Pediatric Instructor Updates in 2010 to update the chapter's current Pediatric Instructors. The first will be held on June 18 in Belleville following the Advisory Committee Meeting. More details will be announced shortly on www.itraumalL.org.

Provider Bridge Course Granted Approval

The one-day PHTLS-to-ITLS Provider Bridge Course that was proposed, developed, and piloted by ITLS Illinois has received formal approval from the ITLS Editorial Board.

Course coordinators who are interested in holding their own Provider Bridge Courses may contact Chapter Coordinator Sue Mc-Donough to request the sample agenda and handouts.

The Provider Bridge program was created to meet the needs of EMS systems that want to transition all of their providers from PHTLS to ITLS. Advisory Committee members Les Heffner, NREMT-P, and Greg Love, NREMT-P, developed the course.

The developers reviewed both texts and provided a comparison of the differences between ITLS and PHTLS, in terms of lectures and text. They found significant differences in four main areas: airway, shock, head trauma, and patient assessment. From those comparisons, handouts were developed to supplement a one-day intensive course with a draft agenda. The agenda and lectures were also reviewed and revised by Art Proust, MD, FACEP, Chapter Medical Director.

The program was piloted in Illinois throughout 2009, with five courses held in April through October to certify 74 students (62 Advanced Providers and 14 Basic Providers). A total of 76 students attended the programs, with only 2 students failing to earn certification. Sixteen of the 74 certified providers earned Instructor Potential.

Feedback from faculty and students during the pilot programs showed that the ITLS

terminology is different than that used in PHTLS training. It was suggested that a review of the pretest would help to familiarize and better prepare the students for the written test. As a result, an additional 15 minutes were added to the start of the course to review the pretest questions. This was the only revision made to the original sample agenda.

The handouts and sample agenda were reviewed by the Editorial Board at its November 2009 meeting in Charlotte, and the program was granted full approval with no modifications. The program will be made available to other Chapters going forward.

Dr. Proust and the ITLS Illinois Advisory Committee commend Mr. Heffner and Mr. Love for their excellent work in developing this program.

Rural ITLS Courses Conclude; Committee Seeks Volunteer Instructors to Continue

The ITLS courses for rural EMS providers that were made possible through a grant from the Illinois Department of Public Health have concluded with a total of 16 courses run in 2009 and 5 courses run in 2008.

The courses, coordinated by ITLS Illinois Affiliate Faculty and ICEP staff member Scot Allen, BS, NREMT-P/ FF III, were successful and very well-received by the participants and hosting organizations.

In 2009, a total of 317 students were certified at these courses: 128 Advanced Providers, 179 Basic Pro-



Students practice intubation procedures at an ITLS Provider Course for Rural EMS Providers.

viders, and 10 Instructors. In 2008, 81 students were certified: 40 Advanced Providers and 41 Basic Providers. The ITLS Illinois Advisory Committee is interested in continuing to take ITLS training into rural areas on a smaller scale, due to the interest in the program.

To keep costs low enough for students to attend, the committee is looking for volunteer instructors to help teach these courses. Locations and dates are currently being determined.

If you are interested in volunteering your time and expertise, contact Chapter Coordinator Sue Mc-Donough at 630.495.6400, ext. 201, or by email at suem@icep.org.

Highlights of 2009 Trauma Conference

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Board of Directors Elections

Three new members of the ITLS International Board of Directors were elected during the conference Business Session by delegates from each Chapter.

Re-elected this year were: Wilhelmina Elsabe Nel, MD, ITLS Southern Africa Chapter Medical Director, and William Pfeifer III, MD, FACS, ITLS Colorado Chapter Medical Director. Newly elected was Jonathan Epstein, MEMS, NREMT-P, ITLS Massachusetts Chapter Coordinator.

2009 ITLS Competition

The North Carolina team representing Surry County was selected as the winner of the 2009 ITLS Competition. Team members were: Roger Horton, EMT-P, Barry McMillian, EMT-P, and Robert Coleson, EMT-P. The North Carolina-Surry County team competed against teams from Ontario and North Carolina-First Health in the Competition's Finals Round. Teams from Palestine, Japan, and North Carolina-Air Care also competed in the Preliminary Round.

ITLS Awards Ceremony

ITLS presented its annual awards at the conference on Friday, November 6. Six members of the ITLS community were presented with awards to recognize them for their ongoing commitment to the ITLS program.

David Maatman, NREMT-P/IC, ITLS Michigan Chapter Coordinator, was presented with the Jackie Campbell Award for his enduring service to the organization.

Jim Boise, RN, CCRN, CFRN, of Arizona, was honored with the ITLS Ambassador Award for his dedication to promoting ITLS programs and for demonstrating a clear understanding of the ITLS mission.

Mary Hancock, MD, FACEP, ITLS Ohio Medical Director, was honored for her outstanding medical direction of courses and ITLS

leadership with the John Campbell Medical Director of the Year Award.

Youta Kanesaki, EMT-P, ITLS Japan Chapter Coordinator, was presented with the Pat Gandy Coordinator of the Year Award for his outstanding leadership in promoting ITLS and prehospital trauma training. The Ray Fowler Instructor of the Year Award was awarded to Fred Zeidler, MD, of Croatia, for his excellence in teaching and innovation in ITLS programs.

The Harvey Grant Memorial Award for excellence in developing and promoting ITLS Access programs was presented to Brandon Kenall, EMT-P, of the Missouri chapter.

As another well-received conference concludes, ITLS is already looking forward to next year's event. The 2010 International Trauma Conference will be held in Reno, Nevada, at the Atlantis Resort Casino Spa on November 4-6. Save the date and plan now to attend!



Illinois voting delegates at the conference's Business Session. Pictured are Dr. Walter Bradley, Dr. Art Proust, Deb Ward, and Julia Brumley.

ITLS Illinois Welcomes New Affiliate Faculty

ITLS Illinois would like to recognize all of the Illinois instructors who have been nominated and approved as Affiliate Faculty in 2009:

- Scot Allen, BA, EMT-P/FFIII, of Richton Park, IL
- Mike Dant, EMT-P, of Washington, IL
- Alicia Pufundt, RN, MSN, EMT-P, of Chicago, IL

- John Sollars, EMT-P, of St. Joseph, IL
- Dale Tippett, EMT-P, of Peoria, IL
- Edward Ward, MD, FACEP, of Chicago, IL
- Ginger Worlds, NREMT-P, of Woodridge, IL

Congratulations to all from the ITLS Illinois Advisory Committee.

ILLINOIS ITL 3000 Woodcreek Drive, Suite 200

Downers Grove, IL 60515

Upcoming ITLS Illinois Advisory Committee Meetings

Wednesday, March 17 - 10:00 AM-12:00 PM ICEP Office, Downers Grove (videoconferencing at Memorial Hospital in Belleville available)

Friday, June 18 - 11:00 AM-1:00 PM Memorial Hospital, Belleville (videoconferencing at ICEP office in Downers Grove available)

Wednesday, September 15 - 10:00 AM-12:00 PM Location TBD (videoconferencing will be available)

the Illinois Chapter of International Trauma Life Support

phone 888.495.4237 fax 630.495.6404 www.itraumalL.org



Board Modifies Policy, Requirements for Becoming ITLS Pediatric Instructor

The ITLS Board of Directors has amended the requirements for becoming an ITLS Pediatric instructor.

According to the revised policy instituted at the beginning of July, a student can become an ITLS Pediatric instructor by fulfilling the following:

- Successfully complete the ITLS Pediatric provider course and earn Instructor Potential (a written exam score of 86% or higher and a patient assessment score of "Excellent").
- 2. Successfully complete the ITLS Instructor course.
- 3. Be monitored teaching lecture, skills station and patient assessment at an ITLS Pediatric course.

The revised policy means that current ITLS instructors who wish to teach ITLS Pediatric need only complete the ITLS Pediatric pro-

vider course and Pediatric instructor monitoring. It also means that students who wish to teach only ITLS Pediatric must complete the ITLS Pediatric provider and ITLS Instructor courses and be monitored, but are not required to take the ITLS Provider course before fulfilling the other requirements.

The Board set an additional policy to apply to current instructors of other advanced pediatric courses, such as PEPP or PALS, who wish to teach ITLS Pediatric. These advanced instructors are not required to take the ITLS Instructor course but only need to take the ITLS Pediatric provider course, earn Instructor Potential, and be monitored teaching ITLS Pediatric to become certified.

A third policy was created to apply to ITLS Chapters outside of North America who are interested in teaching ITLS Pediatric but do not have instructors who have taken the course. These chapters with experienced ITLS instructors may apply to begin teaching the ITLS Pediatric course by applying to ITLS with the names of up to 12 core instructors who commit to read the ITLS Pediatric Coordinator & Instructor Guide in its entirety, and then meet together for one day to collectively complete the provider course using the ITLS Pediatric provider course instructional slides. Upon written confirmation of the above by the chapter Medical Director and Coordinator, approval will be provided to commence offering ITLS Pediatric within the chapter.

These policies were modified with the goal of encouraging a greater number of individuals with pediatric expertise and interest to become involved with and teach the ITLS Pediatric program. Previous policies were noted to be a possible deterrent for instructors interested in ITLS Pediatric only and international chapters seeking to begin the program.