

Case Study: A Unique Traumatic Penetration



**Art Proust,
MD, FACEP**

Typically, when we consider trauma cases, we distinguish them as blunt or penetrating with penetrating trauma classified as either gunshot wounds or stab wounds. I offer that we should rename penetrat-

ing trauma as traumatic penetrations and classify them as either typical (GSW or stab wound) or atypical. Atypical traumatic penetrations can encompass body piercings to foreign object penetrations. It makes sense because we seem to be encountering atypical penetrations more frequently. The next several newsletters will provide examples of atypical traumatic penetrations.

It is 3 AM and you are called to the scene of a staple gun injury. Upon arrival, you find a 36-year-old male sitting on a garage floor with his girlfriend telling you he had, in fact, used a nail gun and shot himself in the roof of his mouth. Further history reveals it to

**Figure 1:
AP and lateral X-ray**



be a CO2 charged framing nail gun loaded with a 2 ½ inch framing nail. The patient, according to his girlfriend, has been drinking alcohol this evening and has also been depressed.

On assessment, he was awake, but not alert. His GCS was 10 (eyes 3, verbal 2, and motor 5). His airway was controlled, and he had a Mallampati score of 2 (p. 70, ITLS 6th edition). He was in a NSR, and his dexstick was 88. The remainder of the exam was unremarkable.

In the emergency department, the patient had sonorous respirations and was still following simple commands and responding to voice. Exam of the oropharynx noted the head of the nail visible in the posterior soft palate angling at 45 degrees superiorly into his head, without active bleeding. An AP and lateral skull x-ray (Figure 1) noted a barbless nail entering the cranium along the midline superiorly and posteriorly. A CT scan of his brain noted the nail passing through the pons to the midbrain and inferior medulla at the midline, with mild ede-



Figure 2: CT scan

ma and small subarachnoid hemorrhage on the right (Figure 2). Subsequent deterioration of his mental status necessitated rapid sequence induction and intubation. He was transferred to a Level I Trauma Center with neuroradiologic interventional capabilities because of the anticipated post-operative complications from his vertebral artery such as clot dislodgement. The patient did survive but with neurologic deficits.

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Provider Bridge Course Pilot Program to Debut in Illinois

A pilot program to transition experienced PHTLS providers to ITLS has been approved by the Board of Directors and will debut in Illinois in early 2009.

The program was proposed to the ITLS Board by ITLS Illinois to meet the needs of EMS systems that want to transition all of their providers from PHTLS to ITLS. ITLS Illinois Advisory Committee members Les Heffner, EMT-P, and Greg Love, EMT-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.

ITLS Illinois plans to offer three or four Provider Bridge courses in 2009, with the initial course scheduled for April in Decatur. The initial course will be taught by active ITLS instructors, including Mr. Heffner, Mr. Love and Ed Kemnitz, EMT-P. A second course may be held later in 2009 in the Peoria area. If you would like to discuss the possibility of holding this course in your region, please contact Sue McDonough at 630-495-6400, ext. 201, or suem@icep.org.

ITLS Illinois will report back to the Editorial Board at the end of 2009 regarding the success of the pilot program.

New Instructor Resource Now Available in Ill.

A new instructor resource developed by an ITLS Illinois affiliate faculty member is now available to all course coordinators and affiliate faculty in Illinois.

The instructor packet includes detailed notes for each Instructor slide and links test questions to each chapter. This helps the instructor to identify and emphasize the most important skills and information in each chapter. The packet was developed by Deb Ward, RN, of Delnor-Community Hospital in Geneva.

Please contact Chapter Coordinator Sue McDonough at 630-495-6400, ext. 201, or suem@icep.org to request the packet.

ITLS Provider Courses Funded by Rural EMS Grant Continue Around State Through May

ITLS Illinois has held five Provider Courses for Rural EMS Providers through the end of 2008, with 10 more scheduled in January through May. More than 100 basic and advanced providers have been certified already.

The courses are available at no cost to EMS providers who live or work in rural Illinois as part of a grant from the Illinois Department of Public Health. The courses are coordinated by Scot Allen, EMT-P/FFIII, ICEP's EMS Manager, and held throughout the state.

If your EMS service is located in a rural area and wishes to have more of its

EMTs certified in ITLS, please contact Scot Allen at 630-495-6400, ext. 218, or scota@icep.org. Full course details and registration for the remaining courses are available online at www.itraumaIL.org.

Thanks to the instructors who have served as faculty: Greg Love, NREMT-P; Debbie Woelfel, RN; Ginger Worlds, NREMT-P; Lisa Wright, RN; Kelly Birdsong, EMT-P; Kris Templin, RN, EMT-P; Angela Alger, PHRN; Jeremy Hafliger, EMT-P; Les Heffner, NREMT-P; David Meiners, NREMT-P, FP-C; Louie Rogers, EMT-P; Randy Stroud, EMT-P; Marc Eckerty, EMT-P; Bill Reynolds, EMT-P; and Harold White, EMT-P. Art Proust, MD, FACEP is serving as the courses' medical director.

UPCOMING COURSES

January 31 - February 1, 2009

DeKalb, IL

February 14-15, 2009

Williamsfield, IL

February 28-March 1, 2009

Robinson, IL

March 14-15, 2009

Urbana, IL

April 4-5, 2009

Galesburg, IL

April 18-19, 2009

Jonesboro, IL

May 16-17, 2009

Williamsville, IL

Dr. Art Proust Honored as Medical Director of Year

Art Proust, MD, FACEP, ITLS Illinois' Chapter Medical Director, was recently honored by ITLS International for his commitment and outstanding efforts in medical direction of ITLS programs and leadership. He received the John E. Campbell, MD, FACEP 2008 ITLS Medical Director of the Year award on November 8 at the 2008 International Trauma Conference in Guanajuato, Mexico.

Dr. Proust has served as the chapter's Medical Director since 2005. Under his direction, more than 375 instructors have been updated in 2007 and 2008. He has traveled throughout the state of Illinois to personally attend and teach at almost all of the 12 instructor update courses. He also chairs the ITLS Illinois Advisory Committee.

In addition, Dr. Proust is serving as medical director for the 16 ITLS provider courses for rural EMS providers coordinated as part of a grant from the Illinois Department of Public Health. The grant provides ITLS training to rural prehospital care providers who would not normally be able to take the courses.



Art Proust, MD, FACEP, ITLS Illinois Medical Director, displays his 2008 Medical Director of the Year Award at the trauma conference.

At the international level, Dr. Proust served the organization as a member of the Editorial Board for the past 4 years.

Dr. Proust is an attending physician in the Department of Emergency Medicine at Delnor-Community Hospital in St. Charles.

He also serves as Associate EMS Director for the Southern Fox Valley EMS System. He earned his doctor of medicine degree from the Chicago School of Medicine and completed his residency in emergency medicine at the University of Illinois Hospitals in Chicago.

The ITLS Medical Director of the Year award is one of several leadership awards presented annually to individuals within the organization for their commitment to ITLS.

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Industrial nail guns were introduced in 1959, and are used to fire nails into steel, wood, and masonry. They are also described as cartridge compression guns or power-actuated tools. They can produce velocities as great as 1,400 feet/second (as a reference a low velocity GSW is defined as speed less than 2000 feet/second). The nails are ejected indirectly by using an explosive cartridge or compressed air at pressures of 60-120 psi. The nails have a polymer coating to increase penetration and adherence to surrounding structures. The nails often have copper barbs that remain attached to the nail by adhesive resins. The most common site of injury is the non-dominant hand in up to 65% of reported cases; other sites of injury include the head, neck, chest, abdomen, vertebral column, and spinal cord.

The mechanism of injury with this case combined with the location of the nail and alcohol consumption should heighten the suspicion of anticipated mental status and airway deterioration. Also, anticipated dysfunction of the level of consciousness, equilibrium, and voluntary motor control should be expected based on the nail passing through the pons into the level of the midbrain near the inferior medulla. Strict attention to the patient's airway combined with the timely transfer to a Level I Trauma Center gave this patient every chance for an optimal outcome.

— Art Proust, MD, FACEP
Chapter Medical Director



Pete Gianas, MD, Chair of the ITLS Board of Directors, presents Dr. Proust with his award at the trauma conference and thanks him for his time and commitment to ITLS over the years.

Highlights of 2008 Trauma Conference

The 2008 International Trauma Conference on November 6-8, 2008, in Guanajuato, Mexico, was a success, attracting more than 175 physicians, nurses, and EMS personnel from 12 countries. The 2008 conference marked the first time an International Trauma Conference was held in Latin America.

Illinois was one of 6 teams to compete in the annual Competition. Team members Deb Neidermeier, EMT-B, Andy Schultz, EMT-P



Illinois team members Andy Schultz, EMT-P, Deb Neidermeier, EMT-B, and Brad Bull, EMT-P.

and Brad Bull, EMT-P, did well, and the presenters for the conference lecture on Team Building and Interaction recognized the ITLS Illinois team as the best example of this. The team from North Carolina took first place in the Final Round for the championship title.

Several awards were given at the conference. Art Proust, MD, FACEP, ITLS Illinois Medical Director, received the John Campbell Medical Director of the Year Award (see story on Page 3). Eduardo Romero Hicks, MD, Guanajuato Chapter Medical Director, received the ITLS Ambassador Award. The Ray Fowler Instructor of the Year Award was awarded to Joseph Bielinski, EMT-P, of New York.



The Illinois team competes in the Preliminary Round of the ITLS Competition in Guanajuato.

As another well-received conference concludes, ITLS is already looking forward to next year's event. The 2009 International Trauma Conference will be held in Charlotte, North Carolina, at the Hilton Charlotte University Place on November 5-7, 2009. Save the date and plan now to attend!



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the Illinois Chapter of International Trauma Life Support

Upcoming ITLS Illinois Advisory Committee Meetings

Mark your calendar for 2009! All meetings will be held from 10:00 AM to 12:00 PM.

Wednesday, February 4
ICFP Office, Downers Grove (teleconferencing available)

Wednesday, May 13
Memorial Hospital, Belleville

Wednesday, September 2
Location TBA

Wednesday, December 2
ICFP Office, Downers Grove (teleconferencing available)

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