

## VIEW POINT

## International Trauma Life Support (ITLS) training through the Spanish Society of Emergency Medicine (SEMES): 10 years' experience with the SEMES-ITLS program

### *Programa SEMES-ITLS (International Trauma Life Support). 10 años de andadura*

Antonio Requena<sup>1,2</sup>, Laura Jiménez<sup>2,3</sup>, Roberto Gómez<sup>4,5</sup>, Carmen del Arco<sup>6,7</sup>

Traumatic injuries represent a major cause of death and disability in the world, and their incidence is expected to increase in the next 20 years<sup>1,2</sup>. The care of trauma patients, especially severe cases, represents an important part of health care activity for emergency medical service (EMS) professionals, and a challenge for which we must be prepared<sup>3,4</sup>.

Recent studies on preventable trauma deaths have confirmed that the main causes are errors in evaluation and performance of critical interventions, as well as delays in definitive treatment. For improvement, they stress the importance of training in the initial care of severe trauma through structured and internationally recognized teaching programs<sup>5-7</sup>.

The Spanish Society of Emergency Medicine (SEMES), as a scientific society, includes in its statutes as primary objectives the assurance of quality accident and emergency care, the promotion of research and continuing education of health and non-health staff working in different EMS<sup>8</sup>. Thus, it is the responsibility of our Society to strengthen the three pillars underlying good practice in the field of health care: assistance, research and training<sup>9</sup>.

SEMES training programs include the International Trauma Life Support program, which has been ongoing for 10 years now. It is a regulated training course in the initial care of severe trauma, with international teaching accreditation. A summary of the development of this SEMES-ITLS program is shown below.

### *International Trauma Life Support (ITLS)*

ITLS is an international organization dedicated to the prevention of mortality and disability from injuries through education in emergency care of trauma patients. According to data presented at the last international conference of ITLS held in November 2014 in Cleveland, Ohio, the ITLS program has trained some 640,000 students worldwide since its inception in

1982, and is represented by 79 chapters and 14 training centers in over 80 countries<sup>10</sup>.

The first course of prehospital trauma - Basic Trauma Life Support (BTLS) - was introduced in August 1982. This course was developed from the Advanced Trauma Life Support (ATLS) course of the American College of Surgeons: the idea was that surgeons, doctors, nurses and paramedics involved should think and act similarly in emergency care. The term "Basic" Life Support does not mean that advanced procedures are not performed; it was defined as such to distinguish the first interventions made in the prehospital scene from more "advanced" surgical procedures used in hospital patients with severe trauma<sup>11</sup>.

The BTLS program began as a local project of the Alabama Chapter of the American College of Emergency Physicians (ACEP) headed by Professor John Campbell.

After years of intensive work, the BTLS was accepted internationally as the training course on prehospital trauma care. In 1985, the BTLS became a nonprofit organization (BTLS International) dedicated to training and education in trauma care. In 2005, BTLS decided to change its name to ITLS (International Trauma Life Support), given the international scope of its recommendations and the training program.

In the United States the program is supported by the American College of Emergency Physicians (ACEP) and the National Association of Emergency Medical Services (NAEMSP).

Each local chapter is represented at international conferences held annually. The purpose of the organization is to support training and update to the highest level the standards of the ITLS program. The ITLS program offers different courses: Advanced Provider, Basic Provider, Pediatric Trauma Care and one called Access focusing on techniques for accessing patients trapped in a vehicle using utensils and tools available in an ambulance or emergency vehicle. Likewise, they offer a course called Tactical which trains health professionals for the initial care of trauma victims in war situations.

**Author affiliation:** <sup>1</sup>Responsable Programa SEMES-ITLS (Director Médico Capítulo ITLS-España). <sup>2</sup>061 Aragón, Alcañiz, Teruel, Spain. <sup>3</sup>Coordinadora Regional SEMES-ITLS, Aragón, Spain.

<sup>4</sup>Coordinador Nacional SEMES-ITLS. <sup>5</sup>SAMUR-PC, Madrid, Spain. <sup>6</sup>Secretaría Nacional de Formación SEMES. <sup>7</sup>Servicio de Urgencias, Hospital La Princesa, Madrid, Spain.

**Correspondence:** Antonio Requena López. 061 Aragón. C/ Lagos de Coronas, 35, 3ª D. 50011 Zaragoza, Spain.

**Email:** itls.arequenal@gmail.com

**Information on the article:** Received: 11/21/2014. Accepted: 12/30/2014. Online: 02/11/2015.

## SEMES-ITLS program (Chapter ITLSEspaña)

SEMES has always recognized the importance of continued training in urgent trauma patient care. The ITLS program was hosted in Spain by SEMES in 2005, through the efforts of Pablo Sánchez Vicioso and Rosa Maria Encinas Puente. The commitment and institutional support by SEMES has been ongoing for over 10 years, backed by the Board and the Presidents of the society: Luis Jiménez Murillo, Thomas Toranzo Cepeda and Juan González Armengol. In 2008 recognition was obtained by ITLS International as a separate chapter (Chapter ITLS-Spain). The year 2010 was a turning point for development of the program in Spain, on improving the practical course and being recognized as one of the programs on Initial Trauma Care in Spain accredited by the Commission on Continuing Training for Health Professions.

In Spain, the SEMES-ITLS program offers an Advanced Provider course aimed at doctors and nurses and a Basic Provider course for paramedics (TES in Spanish) and first responders. The Basic course for TES and first responders has been developing since 2012, adapted to their skills and the new degree of Vocational Training as Technician for Health Emergencies. The last courses held in 2014 have established the final program of action to be widely disseminated in 2015 thanks to the involvement of TES officials. The knowledge, skills and attitudes required are related to "knowing" "knowing how" and "knowing when/where to be" contained in courses in Professional Qualifications of Health Transport and Health Care for Multiple Victims and Catastrophes<sup>12</sup>.

The time schedule for the ITLS provider course is shown in Figure 1. It is accredited, with 18 hours of physical presence and 70 hours of online activity. The instructor / student ratio is 1/3-6 and students undergo 10 evaluations with simulated patients.

Students who score >85% in the final test and the practical exam may be considered as candidates for the position of instructor.

The SEMES-ITLS program has organized a total of 54 courses in the 2005-2014 period, spread throughout the country: 46 Advanced, 3 Basic Provider and 5 Instructor courses (Figure 2), with over 1,000 students trained and 77 active instructors. According to professional category, doctors represent 76% of the trainees, nurses 17.6% and paramedics 6.4%. Regarding the workplace, 47.2% of the students work in hospital emergency departments, 31.4% in EMS, 13.5% in primary health centers and 7.9% in other services, including occupational health.

The experience gained in this time has allowed us know and compare the variability that exists in Spain in organizing the EMS: material and human resources, trauma protocols etc., which has forced us to adapt the methodology to our reality. The overall project brings together professionals from the different links in the chain of survival for severe trauma patients<sup>10</sup>. This has led to improvement in interpersonal and inter-professional relationships and knowing how others work in the same endeavour. While there are differences between specific prehospital

### Activities: day

Registration. Welcome and presentation of the course.  
Mechanisms of injury due to movement  
Assessment and initial management of trauma patient  
Airway Management  
Shock  
Chest trauma  
Abdominal trauma  
Head injury  
Spinal trauma  
Practice in primary assessment  
Sedoanalgesia. Rapid Sequence Intubation  
Skill levels - I (50 minutes each)  
Intravenous access and scores \*  
Trauma patient assessment (I)  
Basic management and advanced airway \*\*  
Restriction of spinal movements  
Rapid extraction  
Questions and answers

### Activities: day 2

Registration.  
Limb Trauma  
Burns  
Trauma in pregnant patients  
Trauma in children  
Trauma in the elderly  
Practice in secondary / continuous assessment  
Incidents with multiple victims (IMV). Performance in disasters  
Skills - II (50 minutes each)  
Traction splint. Helmet removal. Immobilization of pelvis  
Difficult airway \*\*\*  
Evaluation of the trauma patient (II)  
Triage and IMV  
Practice with simulated patients  
Practical and theoretical exams  
Course evaluation. Closure, certificate award

The ITLS Basic Provider Course has the same duration but the Skills section marked with an asterisk changes as follows:

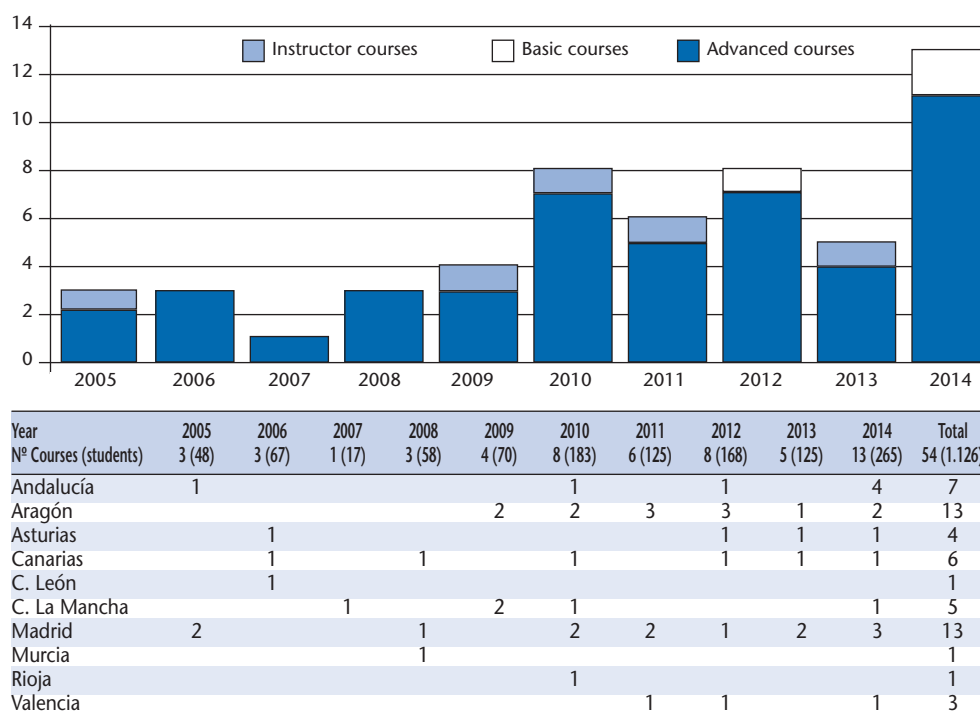
\* Support for advanced techniques in the management of trauma.  
\*\* Basic management and support for advanced airway management.  
\*\*\* Immobilization of limbs.

**Figure 1.** Timeline of the ITLS Provider Course (asterisks indicate the different levels of skill for the Basic and Advanced courses).

and hospital care there are also many factors in common, reinforcing the concept of "continuity of care".

As an international program, growth goes beyond our borders. Significantly, an agreement has been signed between SEMES and ITLS International for the translation and publication of the latest ITLS manual into Spanish, issued last October. It was a laborious project that has taken two years of work, coordinated with ITLS chapters in Latin America. The result is very satisfactory, with updated content and improved program quality<sup>14</sup>. In recent years SEMES-ITLS has participated in ITLS international conferences and currently heads the ITLS-Latin America group and is part of the ITLS-Europe Group. There is a clear need for further training of EMS professionals, especially since the number of patients with severe trauma is low and critical procedures are not performed frequently<sup>15-17</sup>.

We must continue to grow and learn every day. Thus, among the future projects is the development of SEMES-ITLS bulletin, training in initial severe trauma



**Figure 2.** Evolution of the number of training courses offered by SEMES-ITLS (above) and distribution in autonomous communities and number of students trained (below). (2005-2014).

care in the hospital, and other training programs such as pediatric trauma care and Access.

In summary, severe trauma care requires providing the best assistance possible and should be understood as the first step of continuity of care, so that prehospital care and initial hospital care should not be regarded as independent parts: we share the same mission. As a scientific society, SEMES has the responsibility to meet and satisfy all the training needs of the different categories of professionals working in EMS with quality educational programs. We will continue in our efforts to be a point of reference in the attention of patients with severe trauma for our society.

## Acknowledgements

Our thanks to the ITLS providers, the Advisory Committee and all the instructors of SEMES-ITLS. In particular our special thanks to Mercedes Albuera, Carlos Alonso, Anastasio Castizo, Rosa Encinas, Elisa Lopera and Ignacio Pérez, for their help and contributions to the program.

## Conflict of interest

The authors declare no conflict of interest in the present article.

## References

- Norton R, Kobusingye O. Global Health: Injuries. *NEJM*. 2013;368:1723-30.
- Alberdi F, García I, Atutxa L, Zabarte M; Grupo de Trabajo de Trauma y Neurointensivismo de SEMICYUC. Epidemiología del trauma grave. *Med Intensiva*. 2014;38:580-8.
- Belzunegui Otano T, Fortún Moral M, Reyero Díez D, Teijeira Álvarez R. Implantado en Navarra el primer registro de politraumatizados de base poblacional en España. *Emergencias*. 2013;25:196-200.
- Prat S, Domínguez-Sampedro P, Koo M, Colilles C, Jiménez-Fábrega X, Espinosa L. Un año de registro de traumatismos graves en Cataluña. Análisis de los primeros resultados. *Emergencias*. 2014;26:267-74.
- Sanddal TL, Esposito TJ, Whitney JR, Hartford D, Taillac PP, Mann NC, Sanddal ND. Analysis of preventable trauma deaths and opportunities for trauma care improvement in Utah. *J Trauma*. 2011;70:970-7.
- Settervall CH, Domingues CdeA, Sousa RM, Nogueira LdeS. Preventable trauma deaths. *Rev Saude Publica*. 2012;46:367-75.
- Vioque S, Kim PK, McMaster J, Gallagher J, Allen SR, Holena DN, et al. Classifying errors in preventable and potentially preventable trauma deaths: a 9-year review using the Joint Commission's standardized methodology. *Am J Surg*. 2014;208:187-94.
- Estatutos de la Sociedad Española de Medicina de Urgencias y Emergencias. (Consultado 1 Octubre 2014). Disponible en: [http://www.semes.org/area\\_institucional.php](http://www.semes.org/area_institucional.php)
- Padovani Cantón AM. ¿Docencia, Asistencia, Investigación? Un dilema. Editorial. *Rev Ciencias Médicas de Pinar del Río*. 2007;11(2).
- ITLS International Trauma Conference. 2014, Cleveland, Ohio. International Congress Business Session. 2014 Annual Report.
- Werman HA, Nelso RN, Campbell JE, Fowler RL, Gandy P. Basic Trauma Life Support. *Ann Emerg Med*. 1987;16:1240-3.
- Boletín Oficial del Estado. Real Decreto 1397/2007 de 29 de Octubre, por el que se establece el título de Técnico en Emergencias Sanitarias y se fijan sus enseñanzas mínimas. *BOE n° 282 de 24/11/2007*. Madrid: BOE; 2007.
- Coats TJ, Davies G. Prehospital care for road traffic casualties. *BMJ*. 2002;324:1135-8.
- John Campbell. International Trauma Life Support para Proveedores de los Servicios de Emergencias Médicas. 3ª edición en español. Madrid: Adalia farma SL; 2014.
- Lee Patient. Trauma Training: a literature review. *Emergency Nurse*. 2007;15:28-37.
- Mínguez J, García P, Ruiz JL, Millán J. Manejo del trauma grave en la Comunidad Valenciana. *Emergencias*. 2007;19:195-200.
- Requena A, Jiménez L, Gómez R, Encinas R, Pérez I, Lopera E. Reflexiones sobre formación y experiencia en la atención al trauma grave. En: Libro de Comunicaciones: XXVI Congreso Nacional de la Sociedad Española de Medicina de Urgencias y Emergencias-SEMES- Málaga; 2014: p 157. Disponible en: <http://semes2014.org/pyme/articulos/descargables/Semes.pdf>