

The Advanced XXXX Life Support (“AXLS”) Contribution to Emergency Medicine in Israel

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The last 15 years has seen the mushrooming of “AXLS” courses in Israel. I refer to the Advanced Cardiac Life Support (ACLS) [1], the Advanced Trauma Life Support (ATLS) [2], the Prehospital Trauma Life Support (PHTLS) [3], and the Pediatric Advanced Trauma Life Support (PALS) [4]. In this issue of *IMAJ*, Waisman et al. [5] summarize 10 successful years of PALS in Israel. They report an impressive number of physicians, nurses and paramedics who participated in the course and an increase in the theoretical knowledge and skills associated with pediatric resuscitation.

However, despite Waisman’s encouraging findings, one must ask the question, which I believe is legitimate, whether all these “AXLS” courses improve emergency clinical skills, or whether they constitute a small industry associated with revenue. To be cautious, I would dare to say they are both. These courses are all protected by copyright. The books are sold by the relevant association (American Heart Association, American College of Surgeons, National Association of Emergency Medical Technicians). These copyrights do not just require some form of licensing and cost money, but they also propose high standards expressed by predefined objectives, a fixed efficient curriculum, well-built lectures, state-of-the-art simulations and good skills stations. Usually, very large societies or associations give their sponsorship to these courses, which are therefore updated often with new editions published every few years. These predetermined schemes, which are backed by medical educators, avert the well-known Israeli propensity to cut corners and to improvise. There are no excuses to justify failing the course, and standards must be adhered to and evaluation tests passed.

Acute medical situations mandate simple automatic schemes for response. Straightforward algorithms enable rapid rational decisions and reactions and a common language among all healthcare providers both in the prehospital and hospital phases (e.g., A=Airway). Resuscitating a patient or managing other dire urgent medical conditions is not the right time to try and remember peer-reviewed articles. These circumstances call for – one might say – mechanical responses. The common pathway

of all these “AXLS” courses is to follow rational, sequential, rapid steps of identifying a life-threatening disorder, resolving it using very simple measures, and then continuing to the next step. It is often emphasized that a life-endangering situation may be dynamic, and therefore repeated surveys, monitoring and documentation are all mandatory.

Indeed, some of these “AXLS” became a mandatory part of training in Israel for various disciplines. These include ATLS for completion of residency in the surgical specialties in their wider capacity (anesthesia, ophthalmology, gynecology, etc), PALS for pediatricians, PHTLS as part of the paramedics training course, and ACLS as a precondition to start residency in many of the major hospitals in Israel.

All these are fine in theory and make a lot of sense, but one should ask if these courses have any real value, and do they indeed improve outcomes? Many articles have demonstrated the contribution of ATLS to the cognitive knowledge and manual skills of medical students and young physicians [6,7]. This enhanced knowledge and expertise has been confirmed by repeated, written, multiple choice questions tests, and by the use of the objective structured clinical examination (OSCE).

Resuscitation performance according to the ACLS guidelines significantly shortens intubation times in pre-hospital settings [8]. However, despite the potential benefits of adopting these guidelines, no improvement in outcomes has been shown to be associated with cardiopulmonary resuscitation according to the ACLS protocols [9]. PALS was shown to improve knowledge and technical skills [10]. Husum [11] claimed a reduction of mortality in the battle of Jalalabad, Afghanistan, attributing it to the ATLS course; but I regard his findings cautiously, because Afghanistan’s battlefields are probably not the right academic and control setting to evaluate the outcome of battle injuries.

We and others have observed a slow decline in cognitive knowledge following the ATLS course [12], and the same goes for the ACLS. It should be remembered that improvement in outcomes is one of the most difficult issues to confirm in medicine. It is simpler to demonstrate an upgrade in structures and processes, which was achieved for these advanced life support courses.

I believe that the adoption of clinical guidelines is desirable especially with regard to urgent medical situations. Implementation of these “AXLS” courses provides a common language among healthcare providers in Israel and abroad. Until better

PALS = Pediatric Advanced Trauma Life Support
 ATLS = Advanced Trauma Life Support
 PHTLS = Prehospital Trauma Life Support
 ACLS = Advanced Cardiac Life Support

standards are suggested, these guidelines should serve as the gold standards of care for life-threatening situations and resuscitation in adults and children in Israel.

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