

## AP085

**Alternative educational opportunity for new employees at Karolinska University Hospital**

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**Background:** According to the Karolinska University Hospital guidelines for CPR, the requirement is that all new employees are trained in CPR within 3 months. This can be complicated if the department/unit has one or two new employees and no CPR training scheduled within that time. The CPR education center contacted the Human Resource Department (HR) to be included as a part of the introduction day for new employees. Karolinska University Hospital is a hospital with 2 sites: one in Huddinge and the other in Solna. The hospital holds such an introduction day 8 times per year, 4 on each site.

**Purpose of the study:** Find an alternative educational opportunity for new employees within 3 months.

**Material and methods:** Everyone gets their own Mini-Anne training package funded by the HR. The day ends with a DVD film on a big screen with 40–50 people, each with a Mini-Anne manikin.

**Results:** That all personnel receive their basic CPR training within 3 months.

More and more managers report new employees to the introduction day.

Since its inception, 2501 Mini Anne educational packages have been distributed.

CPR training has the highest score on the evaluation forms for this day.

**Conclusion:** That they may keep their Mini-Anne as it can also be used for rehearsal or allow any member of their families to learn CPR with the help of the DVD disc included in the Mini-Anne box. It is a win-win situation for spreading knowledge of CPR.

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## AP086

**Filling the voids in emergency response education: A gaps analysis**

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**Purpose of study:** The Utstein Formula for Survival models the value of medical science as a multiplicative relationship with educational efficiency and local implementation. The Formula provides a rationale for which a positive value must be placed on each component. The 2015 International Liaison Committee on Resuscitation's (ILCOR) Consensus on Science and Treatment Recommendations (CoSTRs) provide a starting point to analyse gaps in education at the local level, which are necessary for the Formula's efficacy.

**Method:** Using the 2015 ILCOR statements as a base, a gaps analysis focuses on the local implementation of Treatment Recommendations. First the Treatment Recommendations were separated into domains of emergency response to identify gaps in a newly imagined Chain of Survival Behaviours, from the perspective of lay responders. Then, each Treatment Recommendation was reviewed for gaps. Finally, the authors and review team (made up of field-based educators) qualitatively identified gaps towards implementation which were not identified by CoSTR writers.

**Results:** In the 2015 CoSTRs, the domains 'Plan & Prepare' and 'Recognising Emergencies' lacked relative attention compared to the domains of 'Respond' and 'Recover' regarding the actual number of Treatment Recommendations. Moreover, at the individual CoSTR level, gaps emerge from consistently low or very low levels of evidence leading to weak or no recommendations (79%).

**Conclusions:** A bias towards medical science dominated the 2015 Treatment Recommendations, limiting the discussion and perhaps devaluing the educational efficiencies and discussion of local implementation. This experience may be due to the value placed on the GRADE analysis process of asking specific questions and focusing resources on specific types of evidence. For future Treatment Recommendations, more generalizable evidence to the local implementation should be available to guideline writers internationally to demonstrate the value of the Utstein Formula for Survival. Attention to fill in the voids across the domains should also be strategically addressed to support guidelines.

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## AP087

**Effects of two teaching strategies on the relationship between nursing students' self-efficacy and performance in BLS/AED**

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**Purpose:** Nurses and nursing students are often first responders to in-hospital cardiac arrest events; thus they are expected to perform Basic Life Support (BLS) and use an automated external defibrillator (AED) without delay. The aim of this study was to explore the relationship between nursing students' self-efficacy and performance before and after receiving a particular training intervention in BLS/AED.

**Materials and methods:** Explanatory correlational study. 177 nursing students received a 4-h training session in BLS/AED after being randomized to either a self-directed (SDG) or an instructor-directed teaching group (IDG).<sup>1</sup> A validated self-efficacy scale, the Cardiff Test and Laerdal SkillReporter® software were used to assess students' self-efficacy and performance in BLS/AED at pre-test, post-test and 3-month retention-test. Independent *t*-test analysis was performed to compare the differences between groups at pre-test. Pearson coefficient (*r*) was used to calculate the strength of the relationship between self-efficacy and performance in both groups at pre-test, post-test and retention-test.

**Results:** Independent *t*-tests analysis showed that there were non-significant differences (*p*-values > 0.05) between groups for any of the variables measured. At pre-test, results showed that correlation between self-efficacy and performance was moderate for the IDG (*r* = 0.53; *p* < 0.05) and the SDG (*r* = 0.49; *p* < 0.05). At post-test, correlation between self-efficacy and performance was much higher for the SDG (*r* = 0.81; *p* < 0.05) than for the IDG (*r* = 0.32; *p* < 0.05), which in fact was weaker than at pre-test. Finally, it was found that whereas the correlation between self-efficacy and performance increased from the post-test to the retention-test to almost reach baseline levels for the ILG (*r* = 0.52; *p* < 0.05), it slightly decreased in this phase for the SDG (*r* = 0.77; *p* < 0.05).

**Conclusion:** Student-directed strategies may be more effective than instructor-directed strategies at promoting self-assessment and, therefore, may help to improve and maintain the relationship between nursing student self-efficacy and actual ability to perform BLS/AED.

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## AP088

### How does compliance with TeamGAINS affect the quality of debriefing for undergraduate inter-professional simulation?

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**Purpose:** Best practice simulation-based education (SBE) involves team-based scenarios with participants playing their own professional roles to improve authenticity.<sup>1</sup> Debriefing after SBE provides an opportunity for participants to reflect on their practice.<sup>1</sup> TeamGAINS is a six-step framework for structuring debriefs.<sup>2</sup> The purpose of this study was to evaluate how TeamGAINS affects the quality of debriefing in undergraduate inter-professional resuscitation scenarios.

**Methodology:** Forty inter-professional scenarios were run for final-year nursing and medical students. Sessions were jointly debriefed by one facilitator from each course; 20 sessions were run prior to training facilitators in TeamGAINS and 20 afterwards. Debriefs were video recorded. Two independent, trained assessors, blinded to sequence, used the Debriefing Assessment for Simulation in Healthcare (DASH) rater version<sup>3</sup> to evaluate quality. Assessors rated DASH elements on the original 7-point scale. Compliance with content and order of TeamGAINS was recorded in post-training debriefs separately. Intraclass Correlation Coefficients (ICC) for individual DASH elements and overall means were calculated to assess inter-rater reliability. Mann–Whitney *U* was calculated to analyse if DASH ratings improved post facilitator TeamGAINS training and the influence TeamGAINS order had on ratings.

**Results:** Nineteen pre- and 18 post-training debriefs were analysed. Low inter-rater reliability was observed (ICC = 0.428). Mean DASH ratings significantly improved post-training (pre: 3.97, post: 4.87,  $p < 0.001$ ). 8 variations of TeamGAINS order occurred. The most frequently used order was TeamGAINS steps 1, 2, 4, 3 and 5 (33%). Mean DASH ratings were not significantly different for debriefs that used this order compared to others (12435: 4.75, other: 4.93,  $p = 0.478$ ).

**Conclusions:** Training facilitators in TeamGAINS improved DASH ratings of debrief quality. Debriefing may have improved as facilitators became more experienced debriefing inter-professional SBE and the sample size of this study is a recognised limitation. Further work is needed to validate debriefing frameworks.

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## AP089

### Knowledge level in four years after completion of Cardiopulmonary Resuscitation Training Program among students attending Safety Education Classes in Polish State Schools



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**Introduction:** ILCOR, ERC and AHA recommend in-school CPR education as the most important strategy to improve sudden cardiac arrest (SCA) survival rate. Trials conducted in Scandinavia and USA implicate an increase in SCA survival rate after the introduction of CPR classes. Since September 2009, a Safety Education (SE) programme has been introduced in Polish junior high schools, containing at least 2 h of CPR training. Furthermore, students continuing education in high school may undertake refreshing course after 3 years. SE programme follows the ERC recommendations. Despite meeting the age criteria for CPR training enrolment (>12 years) and appropriate CPR course duration time (>2 h), the CPR in-school programme is implemented over the course of 1 year, in a 3-year-long education cycle at junior and high school levels.

**Method:** Pupils from Polish high schools were invited to take part in an SCA management training course. The protocol included completing an ex-ante survey and conducting an SCA scenario-based simulation. The quality of resuscitation and execution of CPR algorithm were assessed.

**Results:** Two hundred and thirty-five pupils were included in the study, 87 boys (37%) and 148 girls (63%). Fifty-two subjects (22.12%) took part in training outside school. One hundred and eighty-eight participants (80%) had access to a mannequin during SE classes; 138 (58.72%) did not participate in the practical part of CRP training. Average mannequin training time: junior high school 39.99 min (72.99 OD), high school 29.51 min (28.68 OD), outside of school 72.95 min (107.48 OD). The CPR algorithm 44 students (18.72%) carried out correctly, out of which 19 (35.8%  $p = 0.0001$ ) had additional out-of-school CPR training. AED was used by only 4 students (1.7%). Average chest compressions rate, rescue breaths rate and chest compression depth was, respectively, 109.05/min (20.14 OD), 0.66/min (1.27 OD) and 45.99 mm (13.59 mm OD).

**Conclusion:** SE is a crucial element regarding its public aspect. Unfortunately, the effectiveness of CPR teaching is insufficient due to a low level of knowledge of the algorithm and the quality of resuscitation. Importantly, the use of AED protocol should be considered as a priority. Thus, the authors believe that increasing the mannequin accessibility and amount of practical training is necessary. A better result achieved by individuals trained outside school may implicate that there had been more time devoted to practical training supported by different teaching methods.

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