

Pre-hospital use of LUCAS 2 for cardiac arrest in Western Australia

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Managing cardiac arrest in the pre-hospital setting remains a challenge for Emergency Medical Services.

The arrest often occurs in cramped spaces, where there is poor lighting, exposed to the environment with a limited number of staff to manage the arrest. It has been clearly demonstrated the quality of CPR (particularly chest compressions) is an independent predictor of survival. The concept of quality CPR encompasses adequate depth of compressions, delivering at least 100 compressions per minute, reducing interruptions to compressions, minimising pre-shock pauses, avoid fatigue and prevent over ventilation. In 2010, National and international resuscitation guidelines were further revised to reflect the importance of these key factors.

The unique challenge of the pre-hospital setting often mitigates against the delivery of high quality CPR, particularly when transporting cardiac arrest patients to hospital with ongoing CPR. With newer interventions only available in hospital such as PCI and ECMO the potential to further improve survival in cardiac arrest patients failing to achieve ROSC pre-hospital is just being realised. In order to maximise the survival following out of hospital cardiac arrest, St John Ambulance introduced the LUCAS 2 device as part of a comprehensive and aggressive approach to managing cardiac arrest. This presentation outlines how the LUCAS was implemented into our system, how it is deployed to cardiac arrests and its acceptance within the Emergency Department. Our approach with the LUCAS program was to improve quality of CPR primarily during transportation and provide a bridge to ECMO and / or PCI in selected patients. This presentation will also include a brief demonstration on the application of the LUCAS device.