Introduction:
Our study sought to determine if there is a difference in time to tracheal intubation between direct and video laryngoscopy during cardiac compressions. Guidelines suggest no more than 5 seconds should be taken to perform intubation to minimise any delay in compressions [1,2]. It is unclear if use of video laryngoscopes results in faster intubation times during cardiac arrest.

Methods:
Observational trial involving Emergency, Anaesthesia and Intensive Care doctors. Participants’ baseline data obtained by questionnaire. Resusci-Anne™ manikin with Airway Trainer™ head [Laerdal] with grade 1 airway was utilised. Participants intubated the manikin 3 times, once with each of: MacIntosh size 3 blade, C-Mac video laryngoscope (Karl Storz, Germany) with size 3 blade and portable McGrath MAC enhanced video laryngoscope (Medtronic, USA) with size 3 blade. Order of laryngoscopes was randomised by computer generated sequence. Continuous cardiac compressions were performed throughout attempts.

Results:
Total 54 participants. There was a statistically significant difference in time to intubation between the 3 devices using Friedman test (p<0.01). Wilcoxon signed-rank test demonstrated time to intubation with videolaryngoscopy was longer, C-Mac (p=0.032) and McGrath (p=0.011) compared with direct laryngoscopy. There was no significant difference between the two videolaryngoscopes (p = 0.401). When controlled for participants level of seniority and previous experience with device, direct laryngoscopy was still significantly faster than C-Mac (p = 0.009) and McGrath (p = 0.017)

Conclusion:
Our study showed a disadvantage of video laryngoscopy during cardiac compressions. Faster intubation times with direct laryngoscopy could result in less pause in compressions and decrease periods without perfusion. Direct laryngoscopy is an appropriate first choice for tracheal intubation during cardiac arrest.

References:
1. Soar et al; European Guidelines for Resuscitation; 2015;100-147
2. Australian Resuscitation Council; Guideline 11.6; 2016