# PAEDIATRIC ALS GUIDELINES

# SUMMARY OF CHANGES

These ANZCOR Paediatric ALS guidelines have been modified following release of the 2015 ILCOR Consensus on Science and Treatment Recommendations[1]. We have focussed on recommendations for which there is evidence available from the ILCOR systematic reviews, although there is much that remains based on expert consensus opinion. We have also removed some unnecessary complexity to bring attention to the more important and effective aspects of paediatric resuscitation while helping with training and knowledge retention.

The ALS flow chart for children and infants is now very similar to the adult flow chart. Key differences are in the starting sequence (ABC in children rather than CAB for adults) and the ratio of 2 breaths to 15 compressions vs. 30:2 in adults. We remain convinced of the importance of ventilation in infant and child resuscitation. New registry data supports this, indicating that compression only CPR from bystanders produces no survival benefit in out of hospital cardiac arrest in children. In contrast ventilation/compression standard CPR from bystanders does produce a survival benefit.

Changes include the rate of chest compressions, from "approximately 100" to "100 to 120 compressions per minute". ANZCOR acknowledges that compression rates will vary between and within providers and there is evidence that survival rates are optimised at compressions rates of 100-120 compressions per minute. There is some evidence that compressions rates less than 100 or greater than 140 compressions per minute are associated with lower rates of survival.

The recommendations regarding depth of compression are unchanged for children. For adults ANZCOR acknowledges evidence suggesting detriment with compression depths greater than 6cm. We do not have evidence for a maximum compression depth in children. In making the decision not to change our current recommendations (sternum should be depressed approximately one third of the depth of the chest with each compression. This equates to more than 5cm in adults, approximately 5cm in children and 4 cm in infants), ANZCOR has taken the view that the clinical reality of being able to tell the difference between 4, 5 or 6 cm and adjust compressions accordingly is questionable. Inadequate compression depth is definitely associated with poor outcomes. ANZCOR has elected not to put an upper limit on compression depth as the risk of too shallow compressions outweighs the risk of compressions that are too deep.

There continues to be little evidence of benefit for the use of any drug in infant/child cardiac arrest. Drug recommendations are unchanged, however we emphasise high quality CPR and early defibrillation (when indicated) as of higher priority.

AEDS are now well established within BLS training and widely deployed in our communities. We encourage the use of AEDS in infants/children, even if only a standard "adult" device is available. There is no evidence of harm from the use of these devices in children and they may be life saving in the small group of children (10-15%) presenting with shockable rhythms.

Post ROSC care is very important for maximising quality of survival. These guidelines include a number of recommendations regarding post ROSC care including a recommendation for targeted temperature management (to either normothermia or hypothermia).

Prognostication during resuscitation or after ROSC remains difficult and requires a careful multimodal approach rather than relying on simple measures such as duration of arrest, posture or pupillary signs.

**References**

1. Maconochie IK, de Caen AR, Aickin R, Atkins DL, Biarent D, Guerguerian AM, Kleinman ME, Kloeck DA, Meaney PA, Nadkarni VM, Ng KC, Nuthall G, Reis AG, Shimizu N, Tibballs J, Pintos RV. Part 6: Pediatric basic life support and pediatric advanced life support 2015 International Consensus on cardiopulmonary Resuscitation and emergency Cardiovascular Care Science with Treatment Recommendations. Resuscitation 2015: 95: e147-e168.