More than 4,000 children in the United States receive in-hospital cardiopulmonary resuscitation (CPR) each year, mostly in pediatric intensive care units (PICUs). Because many of these events are a result of progressive respiratory failure and circulatory shock, early warning systems and rapid response teams have been developed for earlier recognition, treatment, and transfer to PICUs. These changes were implemented in order to decrease the proportion of cardiac arrests occurring in less intensely monitored settings and to improve outcomes by preventing cardiac arrests and providing higher quality CPR in the resource-intense specialized environment of the PICU.

- The ratio of PICU-to-ward CPR events increased substantially from 2000 to 2010, with a prominent shift noted between 2003 and 2004. Among 5,870 pediatric CPR events, 93.3% occurred in PICUs compared to 6.7% in inpatient wards.
- Importantly, successful initial resuscitation (return of spontaneous circulation) for these pediatric in-hospital CPR events increased concomitantly with the increase in ratio of PICU-to-ward CPR events from 2004-10, as did favorable neurological outcomes among survivors.
- In-hospital pediatric CPR events occur more commonly in highly monitored ICUs than wards; perhaps the focus of Pediatric Advanced Life Support (PALS) training should be concentrated on the PICU staff and train these ICU providers to use available intensive monitoring (e.g., invasive arterial catheters and capnometry) to guide resuscitation quality when a CPR event occurs.
- Conversely, as general ward CPR events are becoming less common, perhaps the training of ward providers should focus on recognizing changes in the physiologic status of patients, preventing progression to cardiac arrest, and transitioning deteriorating patients to higher levels of care before cardiac arrest occurs.

Visit us online for more information on the American Heart Association’s Pediatric Advanced Life Support (PALS) program and other training courses for healthcare providers.

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Dr. Berg has been an active funded laboratory and translational cardiac arrest and CPR investigator for over twenty years. He has published more than 250 peer-reviewed articles on cardiac arrest, CPR, and defibrillation, and more than 35 book chapters. He has received numerous national and international honors, highlighted by being the 2006 recipient of the American Heart Association’s Resuscitation Science Symposium’s Lifetime Achievement Award as a Cardiac Resuscitation Scientist, and in 2010 being honored by the International Liaison Committee on Resuscitation as a “Giant” in CPR.

Learn more about Get With The Guidelines Resuscitation.