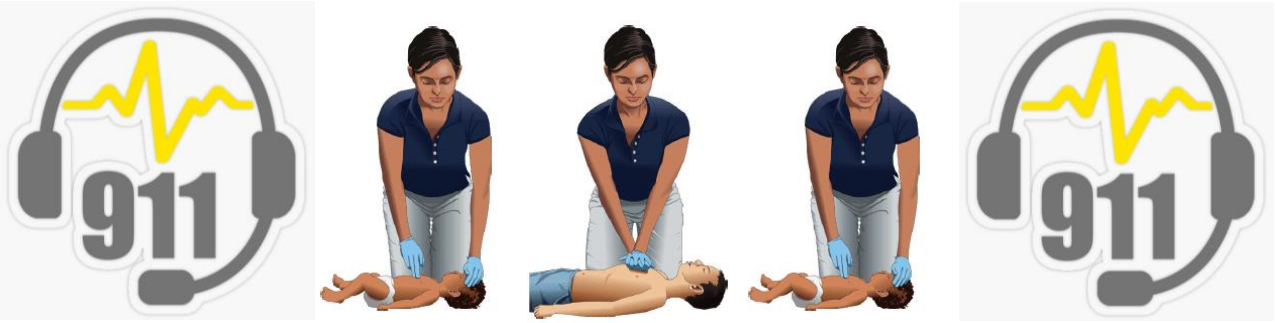
Pediatric Resuscitation: The Role of 9-1-1 Telecommunicator March 12, 2024

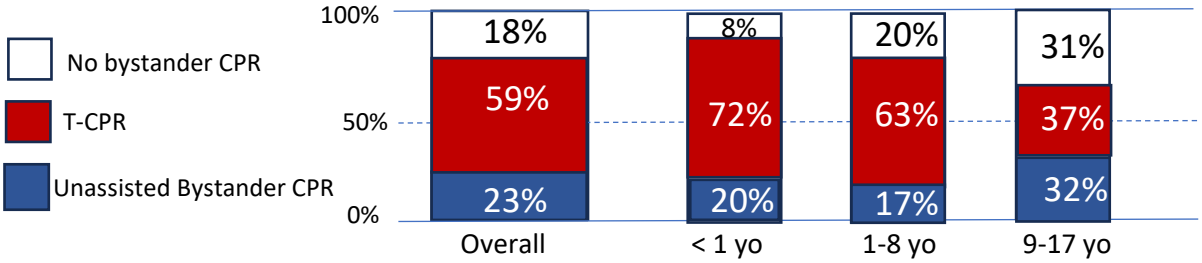
Background: In King County, the telecommunicator at the emergency communication center serves as an important part of the chain of survival by helping to identify the cardiac arrest patient and coaching CPR, a lifesaving activity termed "T-CPR". This evidence comes from evaluation of the care of adult cardiac arrest patients. As a consequence, the rate of bystander CPR in King County approaches 75%, a level that is substantially greater than most communities or systems. However, little is known about how the telecommunicator is involved and impacts the relatively rare event of pediatric cardiac arrest.



The current project reviewed nearly 200 9-1-1 calls for pediatric cardiac arrest that occurred prior to EMS arrival during a 7-year time period in Seattle and King County to understand how the telecommunicator interfaces with the layperson callers and impacts T-CPR. The specific goals of evaluation were to determine how often and how quickly telecommunicators help identify pediatric cardiac arrest and coach CPR.

Key Findings: Overall bystander CPR was performed in 82% of all pediatric cases, the majority due to active telecommunicator involvement (Figure 1). The telecommunicator was essential in identifying cardiac arrest and coaching CPR in 59% of all cases. The bystander provided unassisted CPR in about 23%. There was evidence that arrest recognition and bystander CPR was more challenging among older pediatric patients as bystander CPR occurred in 69% of 9-17 year olds compared to 80% among 1-8 year olds and 92% among those <1 year received bystander CPR.

Figure. Bystander CPR among Pediatric Arrest: Overall and according to Age Group



Among cases requiring telecommunicator assistance, the median interval from call receipt to cardiac arrest recognition was 59 seconds and the median time from call receipt to the start of CPR was 115 seconds – performance comparable to T-CPR best practices among adult OHCA. The coached compression rate was 93 per minute, a compression rate that rivals CPR by well-trained laypersons.

***Summary**:* The telecommunicator is integral to increase timely arrest recognition and bystander CPR in cardiac arrest, providing a key strategy to improve survival following pediatric cardiac arrest.

Medical Director Comment: Although a common take-home, the project's findings underscore (again) the team effort involved in successful cardiac arrest resuscitation. We have long appreciated the important role of T-CPR in adult arrest, and this evaluation highlights similar impactful participation by the telecommunicator in pediatric arrest. The telecommunicator efforts help sustain patient physiology which in turn provides for more effective EMS treatment.

Contributors: This report was produced with the help of Miranda Lewis, Jenny Shin, Sally Guan, Killian Pache, & Tom Rea.