TAKE HOME POINTS:
• Poor quality CPR is common, considered a preventable harm\(^1\)
• Only 12.9% of overall compression segments met AHA “high-quality” recommendations
• The two-thumb encircling technique for infant CPR improves compression rate

INTRODUCTION
• Approximately 16,000 children suffer cardiac arrest per year
• High-quality CPR is critical for optimizing patient outcomes\(^1\)
• Small, single site studies suggest that two-thumb encircling (2T) compressions are more effective for infant CPR than two finger (2F) \(^2\) and one-handed (1H)\(^3\).

2015 AHA BLS RECOMMENDATIONS
• Rate of 100-120 compressions per minute (cpm)
• Compress to adequate depth
  • 2.0 to 2.4 inches for patients ≥ 1 years
  • 1.5 to 2.0 inches for patients < 1 years
• Hand placement

METHODS
• Prospective observational study of pediatric cardiac arrests presenting to 3 PEDs in the VIPER collaborative with data collected by video review
• CPR segment defined as period of chest compressions performed by single provider
  • Hand position documented as technique used for majority of each compression segment
  • CPR segment designated as “high-quality” if AHA rate and depth guidelines achieved
  • \(\chi^2\) analysis was used to analyze relationships between compression technique and adherence to rate and depth standards

RESULTS
• 248 minutes of CPR during 19 patient events were analyzed (14 infants, 5 toddlers)
• 12.9% of all segments met criteria for both rate and depth

OBJECTIVE
To combine video review and monitor-defibrillator data to determine the effects of hand placement on chest compression quality during cardiac arrest in infants and young children.

CONCLUSIONS
• CPR during pediatric cardiac arrest rarely met AHA “High-Quality” recommendations.
• The 2T technique is preferred in infants for achieving adequate compression rate and depth
• Further investigation of factors affecting chest compression depth in pediatric patients is needed

REFERENCES

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