Opioid-Associated Emergencies

Suspected Opioid-Associated Emergency Resuscitation

Last Full Review: ILCOR 2020; American Red Cross Scientific Advisory Council 2017

Last Update: 2023

High-quality cardiopulmonary resuscitation (CPR) and automated external defibrillator use are the most important interventions for cardiac arrest. When opioids are suspected in a cardiac arrest, how should the delivery of naloxone be timed?

Red Cross Guidelines

- Cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED) use remain the first interventions for cardiac arrest in opioid overdose and should not be delayed or interrupted.
- For suspected cardiac arrest due to opioids, naloxone should be administered as soon as possible without disrupting or delaying CPR and AED use.

Evidence Summary

Naloxone administration during resuscitation was reviewed by American Red Cross Scientific Advisory Council (American Red Cross Scientific Advisory Council 2017b) in 2017 and by International Liaison Committee on Resuscitation (ILCOR) (Olasveengen et al. 2020, S41) in 2020. An American Red Cross Scientific Advisory Council 2021 literature update from January 2019 forward did not identify new studies to suggest a need for a repeat systematic review or possible change in guidance. Current guidelines are based on expert opinion due to lack of scientific evidence.

The 2020 ILCOR review (Olasveengen et al. 2020, S41) did not identify any studies in any setting comparing lay responder naloxone administration for suspected opioid-associated cardiac arrest in addition to standard CPR with providing standard CPR only and reporting outcomes of return of spontaneous circulation and survival to hospital discharge.

Insights and Implications

The incidence of opioid-associated cardiac arrest may be underestimated and has spiked during the COVID-19 pandemic and post-pandemic period. A 2021 cohort study evaluated trends in 83.7 million patient encounters in 49 states that participate in the National Emergency Medical Services Information System (Friedman et al. 2021, 886). Opioid-associated cardiac arrests in 2020 were compared with baseline values from 2019 and data compared with provisional total mortality in the Centers for Disease Control and Prevention records from rolling 12-month windows spanning from January 2019 to July 2020. Opioid-associated cardiac arrests rose 42% nationally in 2020, and there was high concordance with provisional total overdose mortality numbers for months in which both data sets were available (Friedman et al. 2021, 886). Opioid overdose education and in-home naloxone administration are essential interventions to manage the physiologic effects of overdose, including hypoventilation, apnea, hypoxemia and systemic ischemia leading to cardiac arrest.