

Is Prehospital Advanced Airway Management Harmful for Cardiac Arrest Patients?

Outcomes were better with bag-valve-mask ventilation than with advanced airway management.

Prehospital advanced airway management by paramedics has become common, but little clinical evidence supports its effectiveness. Furthermore, recent research on resuscitation of patients with out-of-hospital cardiac arrest has led to a shift in management from ABC to CAB, with good-quality chest compressions and defibrillation given priority over airway management ([JW Physician's First Watch Mar 12 2008](#)).

In a retrospective analysis of Japan's nationwide registry of out-of-hospital cardiac arrests from 2005 through 2010, researchers assessed the association between prehospital airway management methods and 30-day neurological outcomes. They used propensity score matching and stratified analysis to control for potential confounders. About 650,000 adult patients were included. Favorable neurologic outcomes occurred in 2.9% of the bag-valve-mask group, 1.0% of the intubation group, and 1.1% of the supraglottic airway group. Compared to patients managed with bag-valve-mask ventilation alone, those managed with endotracheal intubation or supraglottic airway insertion had lower odds of a favorable neurological outcome at 30 days (adjusted odds ratios, 0.45 and 0.36, respectively).

Comment: This study suggests that the chance of a good outcome after out-of-hospital cardiac arrest is at least twice as good with prehospital bag-valve-mask ventilation as with prehospital advanced airway management. In light of the lack of evidence supporting prehospital advanced airway management for patients with out-of-hospital cardiac arrest, this high-quality observational study adds to other evidence in arguing for practice change. Emergency medical services and the American Heart Association should consider revision of guidelines and deemphasize advanced airway management during prehospital cardiopulmonary resuscitation in favor of bag-valve-mask ventilation.

— [Daniel J. Pallin, MD, MPH](#)

Drs. Pallin and Walls are current or recent colleagues of some of the study authors, but they were not involved in the study.

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