

**Resuscitation. 2014 May;85(5):617-22**

**Airway management and out-of-hospital cardiac arrest outcome in the CARES registry.**

**McMullan J, Gerecht, Bonomo J, Robb R, McNally B, Donnelly J, Wang HE; CARES Surveillance Group**

**BACKGROUND:** Optimal out of hospital cardiac arrest (OHCA) airway management strategies remain unclear. We compared OHCA outcomes between patients receiving endotracheal intubation (ETI) versus supraglottic airway (SGA), and between patients receiving [ETI or SGA] and those receiving no advanced airway.

**METHODS:** We studied adult OHCA in the Cardiac Arrest Registry to Enhance Survival (CARES). Primary exposures were ETI, SGA, or no advanced prehospital airway placed. Primary outcomes were sustained ROSC, survival to hospital admission, survival to hospital discharge, and neurologically-intact survival to hospital discharge (cerebral performance category 1-2). Propensity scores characterized the probability of receiving ETI, SGA, or no advanced airway. We adjusted for Utstein confounders. Multivariable random effects regression accounted for clustering by EMS agency. We compared outcomes between (1) ETI vs. SGA, and (2) [no advanced airway] vs. [ETI or SGA].

**RESULTS:** Of 10,691 OHCA, 5591 received ETI, 3110 SGA, and 1929 had no advanced airway. Unadjusted neurologically-intact survival was: ETI 5.4%, SGA 5.2%, no advanced airway 18.6%. Compared with SGA, ETI achieved higher sustained ROSC (OR 1.35; 95%CI 1.19-1.54), survival to hospital admission (1.36; 1.19-1.55), hospital survival (1.41; 1.14-1.76) and hospital discharge with good neurologic outcome (1.44; 1.10-1.88). Compared with [ETI or SGA], patients receiving no advanced airway attained higher survival to hospital admission (1.31; 1.16-1.49), hospital survival (2.96; 2.50-3.51) and hospital discharge with good neurologic outcome (4.24; 3.46-5.20).

**CONCLUSION:** In CARES, survival was higher among OHCA receiving ETI than those receiving SGA, and for patients who received no advanced airway than those receiving ETI or SGA.