

# Can a Designated Ambulance Crew Improve the Outcome of Out-of-Hospital Cardiac Arrest

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*This retrospective cohort study aimed to determine the ability of a designated ambulance crew to improve the outcome of out-of-hospital cardiac arrest (OHCA). We consecutively collected data from OHCA patients from a southern city in Taiwan from January 2004 to April 2005. We compared the resuscitation core measurements between designated and non-designated ambulance crews.*

*The scene interval (mean 12.7 minutes vs. 9.1 minutes,  $p < 0.001$ ) and cardio-pulmonary resuscitation interval (mean 14.0 minutes vs. 10.2 minutes,  $p < 0.001$ ) were markedly increased for designated ambulance crews. The ratios for using laryngeal mask airways (82.7% vs. 42.8%,  $p < 0.001$ ) and automated external defibrillators (91.9% vs. 78.7%,  $p < 0.001$ ) were also statistically significantly increased for designated ambulance crews. In the final model of analysis, the ratio of survival to hospital discharge was decreased by aging (Odds ratio 0.973, 95% Confidence Interval 0.950~0.996,  $p = 0.021$ ) and prolonged cardio-pulmonary resuscitation interval (Odds ratio 0.873, 95% Confidence Interval 0.787~0.969,  $p = 0.011$ ). However, it was statistically higher when resuscitation was performed by a designated ambulance crew (Odds ratio 2.982, 95% Confidence Interval 1.106~8.035,  $p = 0.031$ ).*

*This study highlights the establishment of designated ambulance crews in order to improve the outcome of OHCA. A prolonged cardio-pulmonary resuscitation interval has been shown to decrease the survival rate from OHCA. We suggest the development of emergency medical services should include establishing more designated ambulance crews, as well as shortening the interval between cardiac arrest and arrival at a hospital, in order to improve the outcome of OHCA.*

**Key words:** *designated ambulance crew, out of hospital cardiac arrest, emergency medical service system, laryngeal mask airway, automated external defibrillator, paramedic*

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