Pediatric Intubations in Japan: Lower First-Pass Success Rate than in the U.S.

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First-attempt intubation success rate was 60%, but only a quarter of patients received rapid sequence intubation and nearly all were intubated with direct laryngoscopy.

To determine predictors of first-pass intubation success in children, researchers analyzed data from the Japanese Emergency Airway Network for 293 pediatric intubations (median patient age, 6 years) performed in 17 emergency departments from 2010 to 2014.

Cardiac arrest was the indication for 29% of intubations. Rapid sequence intubation (RSI) was used in 26% of cases and direct laryngoscopy in 94%. The first-pass success rate was 60%. On multivariate analysis, factors significantly associated with higher first-pass success were age 10 years or older (adjusted odds ratio, 2.45), use of RSI (aOR, 2.17), and intubation by a senior emergency medicine resident or attending (aOR, 3.21).

Comment: Compared with a recent U.S. study of pediatric intubations (NEJM JW Emerg Med Apr 2016 and Ann Emerg Med 2016; [e-pub]), this Japanese study found a lower overall first-pass intubation success rate (83% vs. 60%). Would success rates have been higher if RSI were used? Or is it just that the intubators were inadequately trained? The two go hand-in-hand: Better-trained intubators use RSI and intubate better.

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