

# Thenar-Eminence Grip Is Better Than the E-C Clamp Grip for Mask Ventilation

*In a study of novice operators, tidal volumes were greater with the thenar-eminence grip.*

A prior study showed that anesthesiologists perform bag-valve mask ventilation better with the two-handed thenar-eminence (TE) technique than with the one-handed E-C clamp (EC) grip taught by the American Heart Association ([JW Emerg Med Oct 29 2010](#)), but is this true for novice operators also? Researchers enrolled 59 medical and paramedic students to perform facemask ventilation on apneic adult elective surgery patients using both grips in random order. An oropharyngeal airway was placed and students performed each technique for 60 seconds, while an attending anesthesiologist ventilated the patient.

The overall mean tidal volume achieved was similar for the TE–EC and EC–TE sequences (326 and 321 mL). On average, students achieved an additional 110 mL of tidal volume with the TE grip. There were fewer failures with the TE grip (mean, 0.9 vs. 2.4 per 12 breaths). Four students failed to obtain a measureable tidal volume with both grips, and three failed with the EC grip only.

**Comment:** The EC grip requires only one hand, so is easier for a single operator than the TE grip, but in all other regards, the TE grip is superior. When possible, operators should use the TE grip as the method of first choice for bag mask ventilation.

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