Do Airway Skills Learned on a Manikin Transfer to Patients?

R. Eleanor Anderson, MD, Ron M. Walls, MD, FRCPC, FAAEM.

After training on manikins, novices had much higher success rates ventilating patients using a laryngeal mask airway than using a facemask.

Laryngeal mask airway (LMA) devices have an established role in prehospital and emergency care, with both human and manikin studies showing ease of placement even by inexperienced users. But does manikin-based performance translate to patient care?

Researchers in Germany recruited 63 novice medical students to ventilate a manikin and then an anesthetized patient, using both a facemask and an LMA-Supreme. Students received didactic instruction, a demonstration, and a supervised manikin practice session for each device. In manikins, 100% of students were able to ventilate with both devices. Among the 51 students who participated in the patient phase of the study, 66% were successful at ventilating with a facemask, compared to 90% with an LMA-Supreme. Among successful patient ventilations, the mean tidal volume was significantly lower with the facemask (431 mL) than the LMA-Supreme (751 mL), and mean time to ventilate was similar with the two devices (about 60 seconds). There was a negative correlation between ventilation success rate and patient's body weight with the facemask but not with the LMA-Supreme.

**Comment:** Based on this study, manikins should not be used to determine competency for bag mask ventilation by novice providers. These results also support the argument that the laryngeal mask airway (and likely other supraglottic airway devices) is superior to the bag and mask for ventilation of patients, at least when performed by novices.

**Citation(s):**

Russo SG et al. Transfer of airway skills from manikin training to patient: Success of ventilation with facemask or LMA-Supreme™ by medical students. *Anaesthesia* 2013 Aug 19; [e-pub ahead of print].

([http://dx.doi.org/10.1111/anae.12367](http://dx.doi.org/10.1111/anae.12367))