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Modified Mallampati Classification

The Modified Mallampati Classification stratifies predicted difficulty of endotracheal intubation based on anatomic features.

About the Score

The modified Mallampati classification predicts difficult airway in patients requiring endotracheal intubation. The tool is simple to use at the bedside, can be performed in < 1 minute, and has good accuracy (area under the summary receiver operating characteristic curve, 0.83) at predicting difficult airway (eg, difficult laryngoscopy, difficult intubation, or difficult ventilation). (Lee 2006)

The original Mallampati classification had 3 classes of visualization, but a fourth was added later by Samsoon and Young (1987) and shown to have greater predictive value. The latter version of the classification is most commonly used today. While the modified Mallampati classification is usually determined with the patient sitting up, a prospective cohort study suggested that evaluating the patient supine may better predict difficult intubation (area under the receiver operating characteristic curve, 0.82 supine vs 0.7 while sitting) (Hanouz 2018). A class 0 has been proposed by Ezri et al (1998) to denote "extremely easy" intubation, but evidence supporting its accuracy is limited to case reports. A low score may predict easy laryngoscopy and intubation, but does not guarantee it. While a high score should prompt caution, a low score is not intended to provide reassurance.

CALCULATOR REVIEW AUTHORS

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Consider strategies to improve ease of intubation in patients with a predicted difficult airway (class III-IV) (eg, video-assisted laryngoscopy, awake intubation). For patients with identified or anticipated difficult airways, consider involving other airway specialists early and identify alternatives to endotracheal intubation such as laryngeal mask airway, bougie-guided intubation, or other adjuncts. Before starting the procedure in any intubation, especially in an emergency setting, determine the "plan B" and "plan C" to be followed if initial attempts fail.

Evidence Appraisal

The Mallampati score was initially developed for the operating room setting. Multiple large studies involving tens of thousands of patients have shown a reliable association between a higher Mallampati score (class III or IV) and difficult laryngoscopy and intubation.

Despite this, the Mallampati score does have its detractors. In a 2019 paper, Green and Roback argued that despite the high association seen with higher Mallampati class and difficult intubation, the sensitivity of the score is rather low, which is suboptimal for a screening test. They advocated for the use of the Mallampati score in the context of the total clinical picture. Furthermore, in the emergency setting, a patient with a failing airway or respiratory effort requiring intubation will still require intubation, regardless of the Mallampati score. Although a higher Mallampati score may prompt an earlier call to anesthesia or other specialties for assistance, its application in the emergent setting (emergency department, intensive care unit) may be limited, as the score was initially developed and has primarily been validated in the operating room setting.

Instructions

To use the modified Mallampati classification, position the patient seated upright and direct the patient to open mouth and protrude tongue fully.

Use the Calculator Now

Click here to access the Modified Mallampati Classification on MDCalc.

Calculator Creator

Seshagiri R. Mallampati, MD
Click here to read more about Dr. Mallampati.

References

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