Mallampati Scoring: Extend the Neck!

Extending the neck for Mallampati evaluation appears to increase specificity without reducing sensitivity for predicting difficult intubation.

The four-point modified Mallampati (MMP) score is widely used as a marker of difficult intubation. The evaluation is usually performed by having patients open their mouth and protrude their tongue with the head and neck in a neutral position. However, mouth opening has been shown to be greater when the head and neck are extended. In this study, examiners with a minimum of 1 year of airway experience performed the MMP examination on 60 adult anesthesia patients without cervical spine disease and then repeated the evaluation with the head fully extended on the cervical spine to obtain the Extended Mallampati Score (EMS).

The results of the two evaluations are presented in Table 1.

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Table 1: Airway Classification with the Modified Mallampati Score and the Extended Mallampati Score

A Cormack-Lehane grade III or IV view at laryngoscopy, seen in 6 patients, was considered indicative of difficult intubation. The sensitivity of a Mallampati class 3 or 4 for predicting difficult intubation was 83% for both the MMP and EMS, and the specificity was 70% for the MMP and 80% for the EMS.

Comment: Emergency department patients are often uncooperative and difficult to evaluate, but mouth opening and tongue size are two clues to difficult intubation that should be evaluated whenever possible before intubation. Neck extension seems to improve the Mallampati score by one point in more than one third of patients, thus maintaining sensitivity for difficult intubation while improving specificity. Given that patients are intubated with their heads extended on their necks, evaluating them in that position likely makes the anatomical findings more closely predictive of those at the time of intubation.

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