

Study Objective: This study assessed the inter- and intra-observer reliability of Mallampati Classification as assigned by non-anesthesiologists, as a means of assessing the utility of the Mallampati score to assess pre-operative airway risk in a surgery center without anesthesia practitioners.

Design: Retrospective cohort analysis

Setting: Three urban high-volume Planned Parenthood Health Centers in Massachusetts.

Patients: All patients during the study period (September 2012 to May 2015) who underwent an aspiration abortion with intravenous sedation with fentanyl and/or midazolam and who were assigned a pre-operative Mallampati score by a non-anesthesiologist physician

Outcome: Mallampati airway exam score

Measurement: Paired Mallampati score, defined as the Mallampati score at one surgical procedure compared to the Mallampati scores assigned on the same patient at a subsequent procedure

Main Results: There were 654 eligible subjects for the inter-physician analysis who had two Mallampati scores assigned by different physicians. There was slight agreement [weighted kappa 0.1 (95% CI 0.04-0.16)] in Mallampati scores assigned by different physicians on the same patient. The intraclass correlation coefficient (ICC) for inter-observer reliability was 0.14 (95%

confidence interval -0.008 to 0.26), which indicates poor reliability. There were 172 patients eligible for the intra-physician analysis who had two separate Mallampati scores assigned on different days by the same physician. There was moderate agreement [weighted kappa = 0.48 (95%CI: 0.34-0.61)] in Mallampati scores assigned by the same physician on first and second observations. The ICC for intra-observer reliability was 0.75 (95% CI: 0.67 to 0.82), which indicates good reliability.

Conclusions: This study demonstrates that while a single non-anesthesiologist tended to be consistent in their Mallampati evaluation, the Mallampati score of any given patient as assigned by different physicians varied. Therefore, a pre-operative Mallampati score provided by a non-anesthesiologist may not be reliable and may be of minimal utility for predicting difficult intubation.