

Sedation for colonoscopy using a single bolus is safe, effective, and efficient: a prospective, randomized, double-blind trial

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OBJECTIVE: Practice guidelines call for the careful titration of sedatives and analgesics during endoscopy, with time taken between incremental doses to assess effect. This approach is time-consuming and has never been validated in a prospective trial. The aim of this study was to compare the safety and efficacy of titration, as outlined in practice guidelines, with a single, rapid bolus of sedatives before colonoscopy.

METHODS: Consecutive colonoscopy outpatients were randomized to a single, rapid bolus of meperidine and midazolam or to a titration of doses every 3 min until predefined levels of somnolence were achieved. The colonoscopist was not present during sedation and remained blinded as to which technique was used. Supplemental O₂ was given for SaO₂<90% on three or more occasions. Total physician time was calculated from the first injection of sedatives to the removal of the colonoscope. Patient assessments of pain and tolerance were obtained at the time of discharge using visual analog scales of 100 mm (0 = excellent and 100 = unbearable).

RESULTS: A total of 101 patients were randomized (49 bolus, 52 titration). Demographic features were similar for both groups. Titration required more physician time than did bolus (32.2 min vs 20.1 min, $p < 0.001$) and was associated with an increased need for supplemental O₂ (44% vs 14%, $p = 0.002$). Mean tolerance scores were similar (titration 16.3 vs bolus 15.3, $p = 0.72$).

CONCLUSIONS: Rapid bolus sedation for colonoscopy saves significant endoscopist time, is associated with less O₂ desaturation, and provides equivalent levels of patient comfort. A revision of the guidelines for sedation and analgesia during endoscopy should be considered.