

TITLE: CHOICE OF INDUCTION AGENT AFFECTS DISCHARGE TIME FOLLOWING AMBULATORY SURGERY IN CHILDREN
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This study compares the discharge time following three commonly used induction techniques in children undergoing ambulatory surgery.

METHODS: Institutional approval and parental consent were obtained. ASA PS I or II patients 18 ms - 7 yrs old scheduled for ambulatory surgery (<60 min) were studied. Premedication was not used. Anesthesia was induced with one of three methods: N₂O, oxygen and halothane by mask, 5-6 mg/kg of IV thiopental or 3 mg/kg IM ketamine. Anesthesia was maintained with N₂O, O₂ and halothane. Patients were discharged when they met the hospital's pre-determined discharge criteria.

We compared the discharge time for all methods of induction using analysis of variance.

RESULTS: A total of 177 patients were studied. Anesthetic and surgical times were not different among the groups. Patients in the halothane group, however, were younger than in the ketamine group. The results are presented in table 1.

Discharge time after halothane induction was significantly shorter than after all other methods. There were no differences in discharge times between children who received intravenous thiopental or intramuscular ketamine.

Table 1. Age, Anesthesia, Surgical and Discharge Times (mean \pm SEM) in the Three Study Groups

	Mask Halothane	Intravenous Thiopental	Intramuscular Ketamine
Age (yrs.)	3.7 \pm 0.2	4.4 \pm 0.5	2.4 \pm 0.2
Surgical Time (min)	23.2 \pm 1.8	23.1 \pm 2.5	28.8 \pm 4.6
Anesthesia Time (min)	49.3 \pm 2.5	49.5 \pm 3.3	52.1 \pm 6.0
Discharge Time (min)	88.3 \pm 5.5	121.0* \pm 7.2	130.2* \pm 8.3

*p < 0.001

DISCUSSION: The ideal induction agent and technique in ambulatory surgery should result in a speedy and safe recovery. Our study confirms that the use of halothane inhalation for induction of anesthesia will result in the shortest recovery time. Intravenous thiopental or intramuscular ketamine in the dosage studied result in a statistically significant delay in discharge readiness. However, in a child who does not accept mask induction, intravenous or intramuscular techniques may still be indicated even though the recovery will be prolonged.

TITLE: PROPOFOL ALLOWS INTUBATION WITHOUT RELAXANTS
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INTRODUCTION: Propofol, a new intravenous anesthetic with a short duration and rapid elimination half life, may depress pharyngeal and laryngeal reflexes (1). As part of a study evaluating the speed and quality of recovery from anesthesia with propofol as compared to thiopental sodium and methohexital, we also evaluated glottic patency and response to intubation following induction with these agents.

METHODS: Ninety unpremedicated patients, ASA 1 or 2, scheduled for outpatient procedures lasting 30-60 minutes were entered into an open, comparative, randomized study. This study protocol was approved by the institutional human research committee and consent was obtained from all the patients. Induction of anesthesia was started with fentanyl 4 ug/kg I.V. and lidocaine 1 mg/kg I.V. before random I.V. injection of either propofol 2.5 mg/kg (Group A), thiopental 4 mg/kg (Group B), or methohexital 2 mg/kg (Group C). Laryngoscopy and intubation was attempted as soon as possible after loss of consciousness. No muscle relaxants were given. If intubation was unsuccessful due to inadequate relaxation of the jaw or closure of

the vocal cords, a repeat bolus of the induction drug propofol 25 mg, thiopental 50 mg, or methohexital 20 mg, was administered with succinylcholine 1.5 mg/kg and intubation performed. All patients were maintained with 70% nitrous oxide in oxygen, 0.1% succinylcholine infusion, and intermittent boluses of A,B, or C.

RESULTS: Intubation without a muscle relaxant was possible in 28 of 30 (93.3%) patients in the propofol group compared with 1 of 3 (3.3%) in the thiopental group and 0 of 30 (0%) in the methohexital group. Both intubation failures in the propofol group exhibited severe coughing during laryngoscopy. The one patient intubated with thiopental without a muscle relaxant developed severe coughing and mild bronchospasm after intubation.

DISCUSSION: Propofol is a new intravenous agent which, because of its rapid onset and recovery has been suggested as an alternative to barbiturates as an induction agent in ambulatory surgery. However, unlike thiopental or methohexital, propofol also appears to depress pharyngeal and laryngeal reflexes and might, therefore, have broader application in anesthesia.

REFERENCES:

1. McKeating K, Bali IM, Dundee JW. The effects of thiopentone and propofol on upper airway integrity. *Anaesthesia* 1988;638-4022