

4. Tonsils: Does tonsillar-adenoid hypertrophy cause any potential mechanical problems?
5. Torticollis: Is there any restriction of neck motion which prevents adequate flexion or extension of the neck? Is there a thick, bull neck?
6. Thyroid notch: Is the distance from the mandibular symphysis to the thyroid notch at least three finger breaths? Is micrognathia with an anterior larynx present?
7. Trachea: Is the trachea midline or deviated as in some cases of goiter?
8. Tumor: Is a laryngeal or pharyngeal tumor or polyp present which could cause difficulties?

For nasotracheal intubation, we add the following "Ts":

9. Turbinates: Are the turbinates hypertrophied or congested causing a mechanical problem? Is septal deviation present?
10. Tubercle Pharyngeus: Is the anterior tubercle of the first cervical vertebra enlarged impeding pas-

sage of the nasotracheal tube? Is a concomitant Passavant's Ridge present which could lead to submucosal burrowing of the tube?

We have found these guidelines useful in determining whether endotracheal intubation should be done under standard techniques or by specialized methods under awake, topical anesthesia, with or without fiber optics. The final "T" is for occasional tracheostomy.

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More Information about Pipecurium, a New Neuromuscular Blocking Agent

To the Editor:—In the editorial by Savarese¹ concerned with neuromuscular blocking agents, pipecurium is described as a long-acting pancuronium analogue which fits the description of drug "C", and has a duration of action of 45–60 minutes.

This statement is based on data from the article by Alánt *et al.*² Unfortunately, this study had several deficiencies: 1) it was not a controlled study; 2) the doses of pipecurium that were administered were similar to the doses of pancuronium they used routinely; and 3) the evaluation was based on clinical observation without using a peripheral nerve stimulator.

In a recent controlled clinical pharmacologic study,* it was found that in two groups of patients using pipecurium (n = 18) or pancuronium (n = 20) during balanced anesthesia, pipecurium on a weight basis was about 20% more potent than pancuronium. The 95% blocking doses were 0.059 mg/kg for pipecurium and 0.075 mg/kg for pancuronium, respectively. These doses provided equal intubating conditions and relaxation. Using the methods and evaluating the neuromuscular parameters as described in similar studies,³ the onset, duration, recovery time, and reversibility of the residual neuromuscular block by neostigmine of the two

agents given in equipotent doses were similar. The duration of action (clinical relaxation time) of pipecurium was 42.7 ± 5.6 min (mean \pm SE), and for pancuronium, 44.1 ± 4.1 min, respectively. It was found that for all of the relevant neuromuscular variables studied, the differences were not significant between the two groups. No cardiovascular or other side effects were observed with the use of pipecurium.

In conclusion, pipecurium is a more potent pancuronium analogue but with similar neuromuscular actions. The difference is that pipecurium does not cause tachycardia as does pancuronium.

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