

3 T's: Tips, Tricks, Techniques Article 8 (Dec 10, 1997)

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Preoxygenate the claustrophobic via the face-piece adapter

Pre-oxygenation prior to the induction of general anesthesia confers safety by delaying arterial oxygen desaturation. However, some patients, e.g., those with claustrophobia, may refuse having a mask placed over their mouth and nose. One measure I find helpful is to detach the mask, set the flow meters to deliver 100% oxygen, and ask the patient to breathe deeply in and out through the face-piece adapter. Some patients find it comforting if they hold the tubing themselves. After general anesthesia is induced, the mask is replaced to facilitate ventilation as the anesthesiologist proceeds with airway management as usual.

Over the last few years several patients have thanked me on awakening for my being so accommodating and report having had bad experiences with masks being held over them during previous anesthetics. The method described here gives the patient a sense of control while still achieving effective denitrogenation prior to induction.

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Administer Metered Dose Inhalational Drugs with 60 ml Syringe.

This trick permits a metered-dose inhaler to be used to administer vapor directly into the anesthesia gases without having to disconnect the circuit from the tube. The drug cartridge from the inhaler is placed into a 60 cc syringe; the plunger is then replaced so that when it is depressed, the contents will spray out of the syringe. When needed, the syringe is screwed on to the sampling port of the circuit; the drug may then be injected into the circuit without disconnection and without wasting any drug. A benefit of this technique is that one can time the injection to occur during inhalation. This minimizes droplet deposition on the walls of the upper airway and facilitates the droplets being carried deeper into the lung.

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Insert Laryngeal Mask Airways Inflated

Standard instructions for use of the Laryngeal Mask Airway (LMA) describe inserting the device lubricated and uninflated. It is acknowledged that the tip might flip up on hitting the posterior pharyngeal surface and cause difficulty with the insertion.

For the last few months, I have been inserting LMAs unlubricated and inflated. Since adopting this technique I have not had a single problem with insertion. I employ less air than I anticipate will be required for a good seal and then adjust the volume after placement. I still deflate the device prior to removal.

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Pulse Oximetry to Monitor Sedation Level

When procedures are performed under local anesthesia with sedation, there is a risk of over-sedation and a need for assisted ventilation. To help avoid this, sedation is commenced with the nasal cannula in place but without supplemental oxygen flowing. This enables a slight fall in the patients oxygen saturation to be a more sensitive indicator that the patient has reached an appropriate plain of sedation. Supplemental oxygen is then commenced so that the saturation will return to normal quickly. During the case the oxygen flow is maintained at the lowest level commensurate with adequate saturation. Under these circumstances, additional sedation may be safely administered. Any reduction in saturation prompts a temporary increase in oxygen flow.

The underlying principal is that when using minimal supplemental oxygen, hypoventilation promptly causes hypoxemia. At higher flows this safeguard is lost. The minimum oxygen flow technique enables the pulse oximeter to provide an early warning of hypoventilation.

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Hastening Uptake in Low Cardiac Output States

Patients with a low cardiac output, e.g., those presenting for cardioversion, may have prolonged circulation times with an unpredictable onset of anesthesia following the injection. When this is anticipated, the patient is requested to keep the arm raised while the anesthetic is administered. The bolus of drug then reaches the central circulation more quickly. This minimizes induction time and tends to facilitate employing an appropriately small dose.

The patient is asked to keep the arm in this position after administering the bolus; the ability to so do acts as a monitor for the sedation level. Shortly after the patient can no longer hold the arm up, the eyelid reflex is checked to confirm that, e.g., in the case of cardioversion, it is appropriate to proceed.

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