

CORRESPONDENCE

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In Reply:—Historically, the two-piece hemostasis valve–sheath introducer system has made it possible to remove the valve, with the following benefits:

1. connection of a large-volume resuscitation line directly to the sheath introducer
2. preattachment of the valve assembly over the balloon catheter so that the balloon's integrity can be tested before insertion into the sheath introducer
3. replacement of a potentially contaminated hemostasis valve with a sterile valve assembly
4. replacement of the hemostasis valve with a smaller hemostasis valve (for temporary pacemaker introduction).

Of these reasons, certainly the first is the most important. Recognizing the need for volume resuscitation and the potential benefits of the one-piece sheath introducer design, in 1990 Arrow introduced a 9-French one-piece sheath introducer with large-bore sidearm tubing. In this 9-French product, the flow through the sideport tubing is almost equivalent to the flow directly through an 8.5-French sheath introducer. The physician thus has the option of using a one-piece

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Tongue Cyanosis after Laryngeal Mask Airway Insertion

To the Editor:—With the recent introduction of the laryngeal mask airway into clinical practice in the United States, several previously unreported complications have arisen.^{1,2} We describe a case in which appropriate placement of the laryngeal mask airway resulted in cyanosis of the distal portion of the tongue.

A 40-yr-old, 55-kg, ASA physical status 1 woman was scheduled for elective repair of a torn anterior cruciate ligament of her left knee during general anesthesia. Her medical history was unremarkable. She had undergone a previous general anesthetic without complications for wrist fracture. Physical examination revealed a class I airway with normal neck extension.

After sedation with midazolam 2 mg, anesthesia was induced with 100 µg fentanyl and 100 mg propofol. A number-4 laryngeal mask airway was placed easily on the first attempt, with bilateral equal breath sounds; placement was confirmed by the presence of carbon dioxide on capnography. A total of 20 ml air was used to inflate the cuff, and ventilation of the lungs with up to 20 cm positive pressure was easily accomplished. The tube was secured, and the patient began breathing spontaneously. After several minutes it was noted that the distal visible portion of her tongue had become quite cyanotic. Oxygen saturation at this time was greater than 98% by pulse oximetry. Mucous membranes otherwise were pink.

The air was evacuated from the cuff, and the laryngeal mask airway was removed and replaced with a number-3 laryngeal mask airway. Again, a patent airway was obtained, and the patient continued to breathe spontaneously. The tongue remained pink throughout surgery. The patient had an uneventful postoperative course and was

discharged on the 3rd hospital day. Her tongue remained pink, and she did not experience any associated sensory or motor dysfunction.

We have found no previous reports of this complication with a laryngeal mask airway. The lingual artery is a branch of the external carotid artery, which runs parallel to the greater horn of the hyoid and then ascends and enters the base of the tongue. A correctly positioned laryngeal mask airway lies with its distal tip in the hypopharynx at the upper esophageal sphincter and the upper border under the base of tongue. We believe that in our case the laryngeal mask airway was occluding the patient's lingual artery bilaterally. It is unclear whether this occlusion of the lingual artery was due to malpositioning or to the size of the laryngeal mask airway itself; perhaps it was a combination of both.

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