

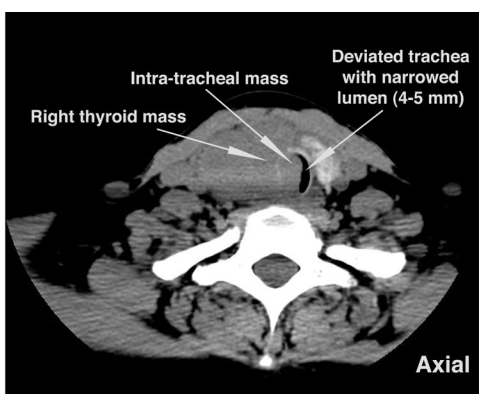
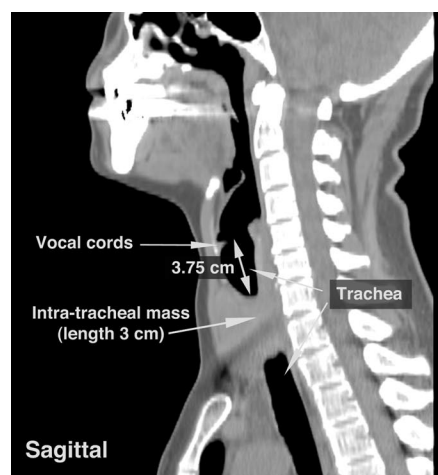
*Hugh C. Hemmings, Jr., M.D., Ph.D., Editor*

# Images in Anesthesiology: Thyroid Cancer Invading the Trachea

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A 43-YR-OLD woman presented with an enlarging neck mass. Computed tomography demonstrated a large thyroid mass invading the trachea. The two images (see figure), Sagittal and Axial, show the intra-tracheal portion of the mass beginning 3.75 cm below the vocal cords, extending for 3 cm, and obstructing approximately 75% of the tracheal lumen. The patient was breathing comfortably while supine. Total thyroid-

ectomy and tracheal resection were planned for thymic carcinoma.

As illustrated in the accompanying video (see Supplemental Digital Content 1, an edited video of the procedure for securing and managing the airway during the phases of tracheal resection and reconstruction, <http://links.lww.com/ALN/A623>), airway management for this patient undergoing tracheal resection can be considered in three phases: (1) before induction of anesthesia, oral intubation with an endotracheal tube (ETT) narrow and long enough to pass the tumor and positioned in the distal trachea; (2) during tracheal resection, withdrawal of the oral ETT and operative field intubation (by the surgeon) of the distal trachea; and (3) as tracheal reconstruction is finalized, removal of the operative ETT and replacement with the oral ETT advanced past the tracheal anastomosis.<sup>1</sup>

In preparation, a standard 5.0-mm ID (interior diameter) (6.9 mm OD [outside diameter]) cuffed ETT was lengthened using the cut-off segment of the 15-mm ETT adaptor, acting as a bridge connecting it to the proximal half of a 5.5-mm ID ETT.<sup>2</sup> Liquid adhesive was applied to strengthen the connection.

In the operating room, the patient was lightly sedated with midazolam and fentanyl. Lidocaine 4% was applied to the airway. Oral flexible fiberoptic bronchoscopy revealed a mass nearly obliterating the tracheal lumen. After the 3.6-mm OD bronchoscope was passed beyond the tumor, the lubricated ETT was advanced over the scope until the tip was positioned in the distal trachea. General anesthesia was induced and maintained with sevoflurane, propofol, and remifentanyl. After surgery, the patient's trachea was extubated in the operating room. Perioperative airway management approaches to tracheal stenosis are discussed in a recent article.<sup>3</sup>

## References

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