

CORRESPONDENCE

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In Reply:—We disagree with Link's suggestion that physostigmine be administered to a patient who exhibits delirium and agitation while being treated with transdermal fentanyl. Although some data from animal models, as cited by Link, would suggest that opioids may impair central cholinergic transmission, no such data exist for humans. The mechanisms underlying neuroexcitatory phenomena due to opioids are not clear. Central anticholinergic syndrome could be included in the differential diagnosis, but its inclusion would not change the recommended management of the reported case. Although administration of physostigmine may generally be considered benign and without serious side effects, rapid administration may result in hypersalivation, respiratory difficulties, and convulsions. In addition, the duration of action of physostigmine is relatively short, approximately 45–60 min.* After removal of a transdermal fentanyl system, serum fentanyl concentrations decrease slowly, requiring approximately 17 h to decrease by 50%, due to a depot of fentanyl in the skin.† It is unclear how a single administration of physostigmine

would provide lasting benefit in this circumstance. Were the patient's mental status to improve with administration of physostigmine, overnight observation would still be recommended because of the presence of a fentanyl depot and likely recurrence of symptoms, as well as the possible occurrence of opioid withdrawal. Finally, no specific diagnostic tests are recommended unless clinically indicated. It is likely, however, that they will have been performed already, as occurred in this case, before a pain management specialist is consulted.

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* Antilirium package insert, Forest Pharmaceuticals Inc., St. Louis, MO.

† Durageic package insert, Janssen Pharmaceutica, Titusville, NJ.

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Teaching Airway Management Skills: What about Patient Consent?

To the Editor:—Despite initiatives by individuals¹ and by the American Society of Anesthesiologists,² many residency programs have been slow to offer formal training in airway management.³ Koppel and Reed highlight a number of difficulties that "thwart residents' exposure" to such training, such as limited opportunities and inexperience with various devices and techniques.³ New Accreditation Council on Graduate Medical Education guidelines now mandate that these skills be taught.* Such training is very important, given the frequency and severity of adverse events associated with airway management.⁴

Some centers have devised innovative ways to teach airway management,⁵ for example, the University of California San Diego Airway Rotation.⁵ What is not clear is the anesthesia community's opinion

about teaching airway management skills without first obtaining patient consent. Consent is not mentioned by Cooper and Benumof in their description of the University of California San Diego Airway Rotation.⁵ Koppel and Reed do not state in their survey whether residency programs obtain consent from patients who are used for such training.³

The question of consent may seem like a nonissue to some. What is the difference between selecting, for teaching purposes, a Miller or a MacIntosh blade; a laryngoscope or a light wand; a fiberoptic bronchoscope or a retrograde intubation? The difference is in the degree of risk to patients when the procedure may be unnecessary to their care. When one reviews reports of the teaching of airway management skills, some centers do,^{6–9} and some do not, obtain patient consent.^{3,5,10–12}

We believe that, for teaching purposes, simple substitutions of laryngoscope blades or the use of devices such as laryngeal mask airways or lightwands is appropriate without patient consent. The Combitube may be an exception; although the risk of esophageal

* Resident Review Committee for Anesthesiology: Revisions to Program Requirements for Anesthesiology. ACGME, Chicago, June 20, 1995.

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rupture is low, the consequences may be devastating. We also believe that fiberoptic intubation in the anesthetized patient presents minimal risk, may have fewer complications than direct laryngoscopy, and does not require prior consent.

Any maneuver that significantly deviates from the standard of care should be performed only after obtaining patient consent. This includes awake fiberoptic intubation and all retrograde techniques. Likewise, repeated airway manipulations with different devices on the same patient requires prior consent.⁶ To reduce patient risk due to inexperience, residents should be supervised constantly during all airway manipulations performed for teaching purposes. We also believe that prior training in a simulated environment may improve patient safety further.

Our purpose in writing is not to impede the training of residents in these important skills. We ask simply whether the anesthesia community agrees that patient consent is necessary when teaching some, but not all, airway management skills. We hope this letter will stimulate a fruitful discussion.

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In Reply:—We appreciate the thoughtful comments made by Allen and Murray. We agree that the consent issue is an important one and was well presented by Allen and Murray. We do not ask the patients who will be anesthetized by the airway rotation residents for special consent to perform airway maneuvers because all of the airway methods we use are well established/accepted, and our teaching methods greatly minimize risk.¹ However, we stress that experienced faculty must be present during performance of the airway maneuvers and that the judgment of the faculty be strictly followed at all times. One very important element regarding faculty judgment is the absolute avoidance of inappropriate force or roughness at any time. In addition, the supervising faculty continually evaluates the impact of the teaching process on the patient; this means that all teaching plans are inherently flexible and may be aborted/changed at any time. We estimate that approximately 10% of the time, the teaching plan is

altered, based on online observation of the teaching process/patient response (the observations may indicate increased risk or, conversely, the observations may indicate that the procedure is simply too easy and there is little learning benefit to be gained by following the procedure to completion).

In 4 yr, (approximately 1,000 faculty/airway rotation resident cases), we have had only three adverse outcomes, and two of the three adverse outcomes were the same. In two cases, intubation through the self-sealing fiberoptic bronchoscope diaphragm on an intubating anesthesia mask caused a piece of the blue diaphragm to be carried into the trachea.² In both cases, the complication was recognized immediately by the faculty, and the blue piece of diaphragm was removed from the trachea by an alligator clamp passed through the working channel of a fiberoptic bronchoscope. We no longer intubate through the self-sealing fiberoptic diaphragm just for