the guiding stylet. Tracheal intubation is still possible and somewhat similar to the "freehand" technique but retains the advantage of having the stylet fastened to the BLS.

We recommend examining the fiberoptic field of view before attempting a BLS-guided oral tracheal intubation. One can hold the BLS loaded with the ETT in the right hand while placing the slightly spread second and third fingers of the left hand near the image bundle. If the stylet is now viewed through the eyepiece, one can appreciate how much of the stylet's tip can be seen. The image should be similar to either figure 1 for a 7.5-mm ETT or to figure 2 for an 8.0-mm ETT. With larger-size ETTs, the tip of the stylet will not be visualized. Therefore, the presence or absence of the stylet in the field of view as well as visible length of the stylet has to be appreciated before attempting laryngoscopy because it greatly affects the technique of the ETT placement into the trachea.

Fig. 1. BLS loaded with a 7.5 mm ID endotracheal tube. The inset demonstrates the corresponding fiberoptic field of view. The position shown is ideal for intubation, with the stylet's tip facing the middle third of the left vocal cord.

Fig. 2. Posterior displacement of the introducing stylet by an 8.0 mm ID endotracheal tube. Only a small portion of the stylet can be seen in the fiberoptic field of view.

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A Low-cost Alternative for More Efficient Quality Assurance

To the Editor.—With the advent of more sophisticated monitoring systems and better quality improvement (QI) in anesthesiology, several new and expensive automated data management systems that provide comprehensive, legible anesthesia records have become available. These systems, however, are still undergoing developmental changes and are at times prohibitively expensive for many anesthesiologists...

Anesthesiology, V 81, No 1, Jul 1994
The New York Hospital
Cornell University Medical College
Department of Anesthesiology
Quality Assurance

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**AIRWAY**
- Difficult Intubation (≥ Attempts)
- Reintubation
- Failed Rapid Sequence
- Esophageal Intubation
- Bronchial Intubation
- Unintended Extubation
- Laryngospasm/Stridor/Group
- Dental/ Airways Injury
- Upper Trauma/ Voice Cmb/Sore Throat
- Epistaxis

**REGIONAL/PAIN MANAGEMENT**
- Failed Block
- Intravascular Inj
- Excessive Block (High Spinal/EPID)
- Wet Tap
- Post Lumb Puncture Headache
- Reaction to Local Anesthetic
- Inadequate Block -> GA

**RESPIRATORY**
- Respiratory Arrest
- Hypoxemia SaO2<90% or Paco2>80

**INTEGUMENT INCIDENT**
- Catheter Injury

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Fig. 1. Customized bubble form partially reproduced.

The bubble forms are delivered to a central area along with the anesthetic records and billing sheets for quality control. They are then passed along to the individual responsible for scanning. Each form scans in a fraction of a second. The user can scan a couple of hundred forms in an hour. We then have a record of who performed what anesthetic when on whom and what adverse event occurred when; if any. We can even produce a report for our residents of their cases in a format exactly like that required by the American Board of Anesthesiology.

This system allows for capturing large amounts of data in an efficient manner, while maintaining the ability to produce comprehensive and sophisticated reports at a relatively modest price. The entire system can be up and running for less than $20,000, as compared to $25,000–$30,000 per site for an on-line automated data management system. In addition, optical scanning can be used for other applications, such as resident evaluations, intensive care units, and research data collection. Basically, any data that can be stored in a table can be captured and analyzed with optical scanning techniques.

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