entering the patient's name, age, weight, hematocrit, and hours NPO as variable values.

With the calculating priority set by rows, the program sequentially generates the completed form (fig. 1*B*). A single page is sufficient for fluid management, estimated blood volumes and appropriate doses of commonly used induction, maintenance, and resuscitation agents. A second page lists dosages, dilution factors and infusion rates for vasopressors, inotropes, and antiarrythmics. Our format was planned for cardiac anesthesia, but it could be adapted easily for all types of anesthesia.

The initial template required approximately 30 min to set up. Production of a pediatric worksheet requires loading the program and file from a floppy disk and entering variables. The finished form requires less than 2 min including printing time.

Many anesthesia departments already have a personal computer available for use in case management, word processing, and billing. Although the computer we used is typical of inexpensive and commonly available systems, spreadsheet programs are available for almost any computer.[3] The authors will be glad to provide greater details for those interested in developing their own spreadsheet formats for use in anesthesia practice.

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Tracheal Tube Guide to Facilitate Nasotracheal Intubation

To the Editor:—The Magill forceps commonly are used to guide the endotracheal tube into the larynx during nasotracheal intubation. Other devices such as the Bearman[1] wire hook or the tracheal tube retractor[3] may be required in patients who have severe anatomic deformities of the pharynx, jaw, and cervical spine. The use of these devices have been described by Munson,[2] Chester,[3] and Singh.[4]

Difficult nasotracheal intubations are encountered in patients with micrognathia,[4] ankylosis, or fractures of the mandible and ankylosing spondylitis.[2] Hematomas and abscess formation of the pharynx, palate, and tongue also may cause intubation problems.

The tracheal tube guide is designed to facilitate nasotracheal intubation (fig. 1) in patients who present with problems described above.

In operation, the nasotracheal tube is passed until the end may be visualized or palpated in the pharynx. The guide may engage the tube above the cuff under direct laryngoscopy or blindly with the palpating finger. When the blades of the guide engage the tube, the end may be directed in any direction required (fig. 2).

When the tip of the tube enters the larynx, the tracheal tube guide may be disengaged by rotating the angulated handle to the midline.

The tracheal tube guide design has certain advantages over the Magill forceps and the Bearman hook:

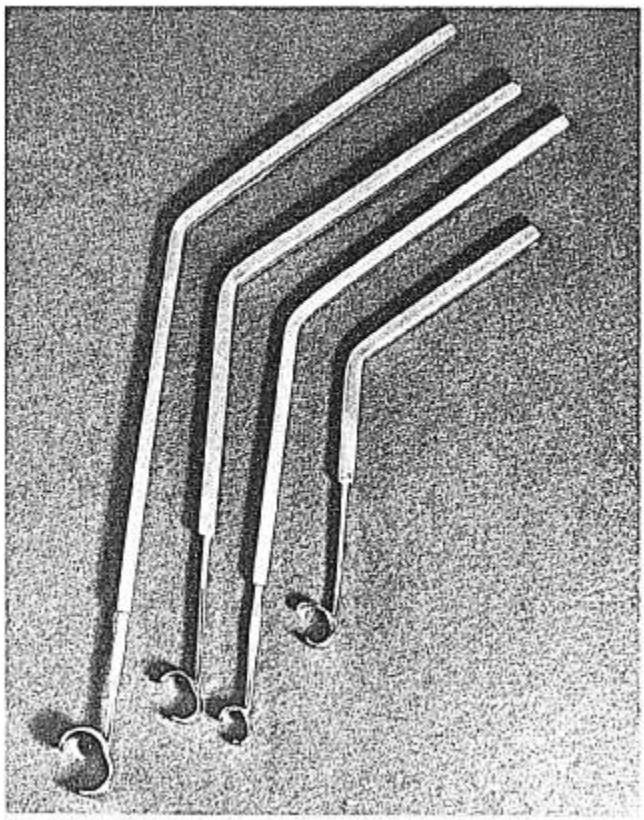

FIG. 1. The four sizes of the tracheal tube guides available.

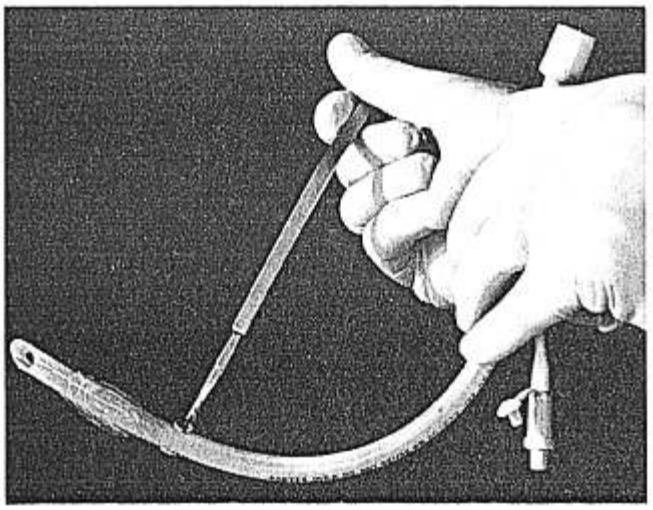

FIG. 2. The guide may direct the tube in any direction required.

1. There is no hazard of inadvertently grasping the mucosa of the pharynx.

2. There is little danger of tearing the cuff. This occurs with the jaws of the Magill forceps or the relatively sharp edge of the Bearman hook.

3. The angulated handle provides an adequate grip and ease of control, without obstructing the field of vision.

4. The blades of the guide enable the operator to guide the tube posteriorly if required. This maneuver is not possible with the Bearman hook or tracheal tube retractor.

The device will be available in disposable plastic to interested anesthesiologists.

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A New Technique for Applying Scalp Electrodes for Intraoperative EEG Recording

To the Editor:—Satisfactory EEG recording in the operating room environment often is hampered by the lack of a good system for attaching leads to the patient's head. Conventional cup electrodes attached with EEG paste are messy and dislodged easily. When attached with collodian, adherance is somewhat better, but this involves a meticulous time consuming process. Needle electrodes have the disadvantage of being invasive, unappealing to patients, and often provide poor recordings.

At our institution we have adapted the two-sided circular adhesive (Vitatek, Hillsboro, Oregon), normally used to attach a precordial stethoscope to skin, to attach standard cup-style EEG electrodes to the scalp. We prepare the skin with skin degreaser (Miller-Stephenson, Los Angeles, California), remove the backing from the inner side only of the two-sided adhesive, attach the sticky side of the circular adhesive to the outer surface of the EEG cup electrode, then replace the backing (fig. 1). Next we fill the cup electrode with EEG electrode cream (Grass Instrument Co., Quincy, Massachusetts) through the hole in the inner backing. When ready to apply, we peel away the backing covering the inner surface of the electrode

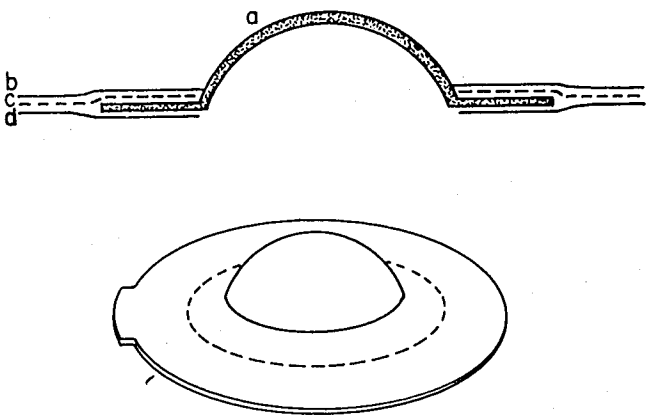

FIG. 1. The cross-sectional diagram shows the EEG cup electrode attached to the circular adhesive (a = EEG cup electrode, b = backing, c = two sided adhesive, d = backing). The three dimensional diagram shows the dome of the EEG cup electrode protruding from the hole in the center of the circular adhesive.

and then attach the electrode to skin (fig. 2). With this technique, standard EEG electrodes are applied more quickly than with collodian (which takes several minutes