trained air is a reality. We strongly believe that since the patient in the sitting position is at risk from venous air embolism, the Doppler and right atrial catheter should be routinely employed.

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A Procedure for Measuring the Length of the Catheter in the Epidural Space

Epidural anesthesia is used with increasing frequency in obstetric practice. Often an intermittent technique is used and local anesthetic drugs are injected through the catheter as required. With epidural anesthesia, pain relief is not always as complete or predictable as with spinal anesthesia[1] and it is probable that inaccurate placement of the catheter tip may account for some cases of failure. Unilateral or inadequate anesthesia may be caused by an excessive length of the catheter in the epidural space if the catheter doubles back on itself,[2] exists the epidural space via an intervertebral foramen,[3] or lies in the anterior instead of posterior epidural space.[3] Although the importance of placing the correct length of the catheter (2–4 cm) in the epidural space has been stressed in many books, a procedure to accomplish this with any commercially available needles and catheters is not well-described.

We are describing a method for precise cannulation of the epidural space which can be used with two currently available epidural trays (Pharmaseal and Travenol Epidural Anesthesia Trays).

PROCEDURE

After the routine preparation of the patient, the following steps are performed (fig. 1). 1) The epidural needle is advanced into the epidural space. 2) The length of the needle including the hub remaining outside the skin is measured. This can be done easily using the 3-ml plastic syringe from the set. The syringe is held adjacent to the epidural needle. Step 2: The piston is withdrawn until its front black ring is in line with the end of the needle. Do not displace this syringe mark. 3) Insert the epidural catheter. When the first mark on the shaft of the catheter coincides with the hub of the needle, the tip of the catheter is in the epidural space. 4) When the third mark on the catheter coincides with the hub of the needle, a 2-cm length of the catheter is in the epidural space. 5) To avoid accidental withdrawal of the catheter, withdraw the needle while advancing the catheter for an additional 2–3 cm (total 4–5 cm). 6) After the needle is

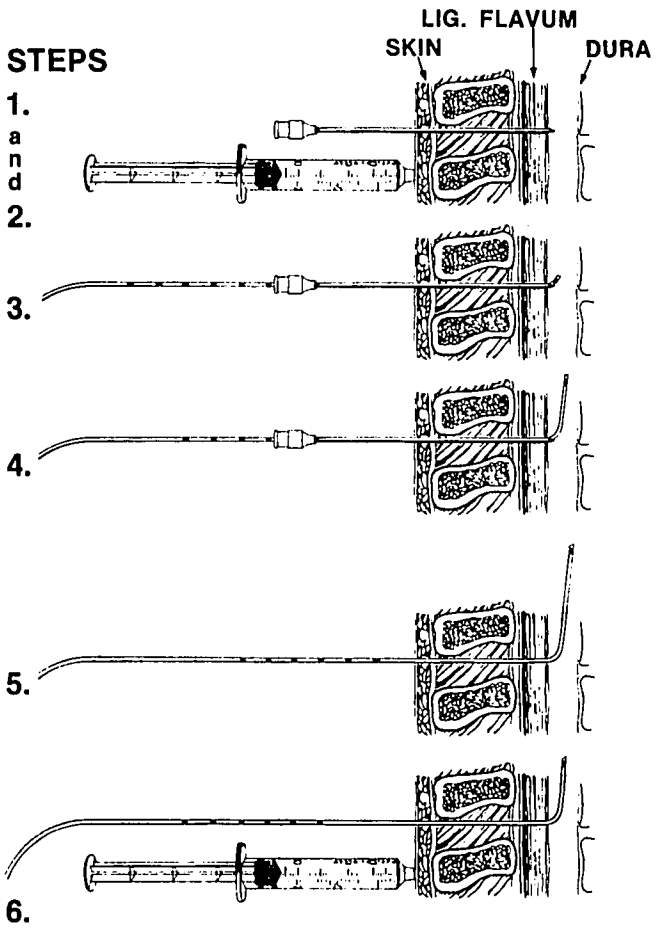

FIG. 1. Procedure for precise cannulation of the epidural space.

removed, place the 3-ml plastic syringe, without disturbing the position of the piston, alongside the catheter. Slowly withdraw the catheter until the third mark on the catheter coincides with the front black ring on the piston. Exactly 2 cm of catheter are in the epidural space.

In patients who are obese, restless, or having edematous backs, one may choose to leave an extra 1 cm of catheter in the epidural space. The catheter is fixed in the routine secure fashion.

We are using this procedure in clinical practice and are impressed with excellent results.

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ASA PS Classification Is Not Risk Classification

To the Editor:—We agree with Dr. Bayes'[1] conclusion that asymptomatic cigarette smokers should be classified at least as an ASA PS Class II and that smokers have a systemic disease. They may indeed have pulmonary and vascular abnormalities. Bayes, however, made the not infrequent error of referring to this system of ASA PS classification as a "risk classification." This classification has survived less accurate references. In their comprehensive study of perioperative mortality, Beecher and Todd[2] incorrectly equated physical status with perioperative risk. Feinberg[3] erred in the same manner in titling his article on obesity. Goldman *et al.*[4] erroneously referred to the ASA PS classification as the "Dripps—American Surgical Association (sic)," and mistakenly described it as a "preoperative assessment of surgical risk."

The ASA PS classification was devised by Drs. Saklad, Rovenstine, and Taylor more than 40 years ago.[5] They originally were given the task of defining a classification of "operative risk." They wisely concluded that operative risk was influenced by too many intangibles and they settled on a system of *physical status* classification alone. Throughout these past four decades the system has endured several minor changes and its spirit remains intact. In the words of the originators, "No attempt should be made to prognosticate the effect of a surgical procedure upon a patient of a given Physical State . . . it may be difficult, at first, for the anesthetist to classify patients with reference to their physical state alone. Subconsciously, he is apt to allow his knowledge of the contemplated surgical procedure to influence him in his grading of patients."

The concept of risk involves danger and the ability to predict outcome. One facet of this is a uniform classification system or a system of taxonomy which makes for consistency regardless of who utilizes it. Since we lack accuracy and therefore this element of consistency in predicting morbidity and mortality, it is far more logical to be precise with a description of physical state. This, after all, has been demonstrated to correlate positively with outcome.[6]

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