Patient-controlled Analgesia (PCA)

To the Editor:—To date, there are no reports of severe respiratory depression with catastrophic outcome following PCA. Two cases of respiratory depression following PCA with morphine were mentioned in a recent correspondence.1 The safety record of PCA machines has been excellent. There is also one report of two mishaps both due to human error.2

My concern regarding safety is the current introduction of a choice of modes increasingly offered by manufacturers. Three modes are available: (1) PCA; (2) continuous; or (3) continuous plus PCA. Whenever the continuous or continuous plus PCA mode is used, a danger of overdose is present.

With the PCA mode, patients are given a pre-assessed individualized loading dose to create analgesia. They are taught to titrate potent opioids by pressing a button on a hand-held pendant. The physician sets the PCA machine to deliver a small dose of opioid. When the button is pushed and released, the small dose is delivered intravenously. A preset, lockout interval also limits the maximum dose the patient may receive. With experience with more than 18,000 postoperative patients, we have utilized a low dose of morphine (1 mg) or meperidine (10 mg) for the patient dose followed by a lockout period of 6 min. The maximum hourly patient-controlled dose is 10 mg of morphine or 100 mg of meperidine. Some patients push the button frequently, while others require only occasional bolus doses. If excessive sedation or somnolence occurs, the patient does not push the button. At Magee-Womens Hospital, severe respiratory depression has not occurred using either morphine or meperidine.

We foresee problems with the continuous mode plus PCA. The manufacturer’s recommended continuous dose is 1–3 mg·h⁻¹ morphine, which may be dangerously high for some patients. At Magee-Womens Hospital following abdominal hysterectomy patients receiving 0.5 mg·h⁻¹ morphine have slept well during the night without having to activate the machine, in other words, no additional boluses are required. When a continuous plus PCA mode is prescribed, the safe and effective setting of the continuous dose is an estimate by the prescribing physician. If the patient does not use PCA with continuous, the continuous dose is too high. If the patient needs frequent PCA boluses, the continuous dose is too low.

In many hospitals, the prescribing physician is not in-house during the night. The nursing staff is responsible for monitoring prescribed patient care by following doctor’s orders and nursing protocols. An-1027

An illuminating Suggestion

To the Editor:—In a recent letter, Kubota et al.1 describe the illumination of the vocal cords by holding a pencil torch at the mouth, in the event of laryngoscope light failure. We would like to make the following suggestions. First, there should always be two laryngoscopes available. Second, the technique they describe may be refined in the following manner. The larynx should be transilluminated anteriorly...