


Patient controlled analgesia puts pain under patients' control, may shift liability

By Margaret Wacker, RN, PhD,
CLNC
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 Patient controlled analgesia (PCA) has become the standard of care for the treatment of postoperative pain.

This modality of opioid administration offers many advantages: 1) patients are able to administer their own analgesia and adjust the dose to achieve desired pain relief; 2) intermittent dosing by nursing staff is

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• In PCA cases, look for device malfunction or operator error. The latter is more often associated with serious adverse outcomes.

number of factors need to be considered when ascertaining if a patient is an appropriate candidate for PCA.

Of primary importance is the capability of the patient to understand the relationship between pain, pushing the PCA button and pain relief. The patient must be able to physically self-administer a PCA dose using available equipment. Parameters as to the size of the background or bolus opioid dose, minimum time period between doses (lock-out period) and maximum dose allowed are set to minimize the risk of patient injury.

PCA by proxy is also possible when one person is designated to be the patient's primary pain manager and meets criteria established by the treating facility. Designated pain managers can be the patient's primary nurse or a family member who is willing to be trained and accept the responsibility of pressing the PCA button.

Manufacturer-confirmed device malfunctions are a major cause of adverse drug events with PCA.

Operator errors however, are more likely to be associated with more serious adverse outcomes than device safety problems. Most of the operator errors are related to pump programming. These errors are preventable and substantially contribute to patient morbidity, mortality and increased healthcare costs.

To avoid operation errors, in addition

to miss-programing the pump, it is imperative that nurses caring for patients receiving narcotics by PCA modality be knowledgeable about the specific narcotic prescribed. Morphine sulfate is commonly prescribed for postoperative pain by intravenous PCA delivery. Knowledge about equianalgesic doses of morphine sulfate vis-à-vis other narcotics ensures patient safety. For example, a 1.5 mg intravenous dose of Dilaudid equals more than a 10 mg dose of intravenous morphine. If nurses are accustomed to 1.5 mg bolus doses of morphine there is a risk they will not recognize the danger of a 1.5 mg dose of Dilaudid.

Delegation of PCA by proxy to a designated non-nurse pain manager should include written documentation of the training and clear instructions to contact the patient's nurse if there are any concerns. Sedation and decreased respirations require immediate assessment by the nurse. It is prudent to provide the designee with the name of the patient's nurse on each shift and to document this in the medical record.

Cancellation of the proxy delegation is well within safe practice guidelines if the nurse believes the designee fails to practice his or her responsibility according to training guidelines.

A syringe with Narcan must be available

at the bedside whenever PCA narcotics are being delivered. This expedites the reversal of an unexpected respiratory compromise or arrest.

Results of systematic reviews (Cochrane Database Syst. Rev. 2006; (4): CD003348) of the efficacy of PCA as compared to conventional post-operative analgesia indicated that patients were more satisfied with the PCA modality. However these studies had methodological limitations and were considered of poor quality.

In summary, IV PCA, though effective, is a burdensome modality requiring multiple steps and at least five staff members to administer. Possible shortcomings such as device malfunction and operator error contribute to the risk of compromising patient safety.

Although PCA is the most commonly used modality in the management of post-operative pain, there are emerging modalities such as iontophoresis and liposomal delivery systems that hope to overcome some of the risks of medication errors and pump malfunctions. Clinical trials comparing the newer modalities to PCA are underway. •

Margaret Wacker, RN, PhD, CLNC is president of Wacker & Associates, based in Florida; chakdoc@aol.com.