

Safety During Patient-Controlled Analgesia

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RESOURCE CENTER: APSF (ANESTHESIA PATIENT SAFETY FOUNDATION)



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APSF believes that opioid-induced depression of ventilation during patient-controlled analgesia (PCA) and neuraxial analgesia is a preventable cause of morbidity and mortality. A panel of experts discussed this topic and attendees at the conference contributed their views during the APSF Board of Directors Workshop on October 13, 2006.

The conference attendees and participants agree there is a significant and underappreciated risk of injury from PCA and neuraxial opioids administered in the postoperative period. While some patient populations (notably those patients with obstructive sleep apnea) appear to be at higher risk, there is still a low but unpredictable incidence of life-threatening opioid-induced depression of ventilation in young healthy patients.

Based on the data presented at the October 13, 2006 conference and the comments of the participants, APSF endorses a goal that “no patient shall be harmed by opioid-induced ventilatory depression in the postoperative period.” To address this goal, APSF urges healthcare professionals to give consideration to the potential safety value of continuous monitoring of oxygenation (pulse oximetry) and ventilation in patients receiving PCA or neuraxial opioids in the postoperative period. Although pulse oximetry will monitor oxygenation, it is not a sensitive or specific monitor for hypoventilation when supplemental oxygen is being administered. When supplemental oxygen is indicated, monitoring of ventilation may warrant the use of technology designed to detect breathing or estimate arterial carbon dioxide concentrations.

Continuous monitoring is most important for at-risk patients, but depending on clinical judgment, could be applied to other patients. **APSF also believes it is critical that any monitoring system be linked to a reliable process to summon a competent healthcare professional to the patient’s bedside in a timely manner.**

APSF recognizes that future developments may improve the ability to utilize continuous monitoring of oxygenation and ventilation in the postoperative period. In this regard, APSF encourages research and education in postoperative monitoring of patients receiving opioids. However, the status quo while awaiting the perfect monitor(s) is not acceptable and APSF urges consideration of continuous postoperative monitoring of oxygenation and ventilation in appropriate patients without delay.

A complete report of the conference presentations and an expanded description of APSF’s goals and conclusions will be published in a future issue of the APSF Newsletter.

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