

Perineural Catheter Techniques for Postoperative Pain Management at Home

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Objectives

1. Identify medical issues related to the use of home-going perineural catheters.
2. Describe the risks and advantages of postoperative pain management at home.
3. Determine the steps necessary to establish a service to provide pain management at home with perineural catheters.
4. Identify means of maximizing patient satisfaction and reducing overall risks.

There has been increasing interest in the use of continuous perineural local anesthetic infusions as a means of providing postoperative analgesia. Combining a perineural catheter with a portable infusion pump allows outpatients to experience the same level of analgesia previously reserved for those remaining hospitalized. High quality analgesia provided in this fashion has allowed significant expansion with regard to the types of surgical procedures performed on an outpatient basis. Although seemingly straightforward, there are numerous considerations related to the overall management of perineural catheters on an outpatient basis that must be accounted for in order to develop a successful home-going catheter program. These include medical issues and risks such as the potential for local anesthetic overdose, catheter infection, catheter breakage, incorrect drug infusion, catheter displacement, limb injury, falls and others. There are obvious advantages such as improved analgesia, reduced opioid use, increased patient satisfaction, reduced costs, and conversion of inpatient to outpatient procedures. In some settings, it may facilitate early hospital discharge. It is important to recognize that not all patients are good candidates for postoperative pain management at home. Not all patients or families are willing to accept the additional responsibility that comes with a catheter and pump system. Complications routinely managed in the hospital may take longer to recognize and may be more difficult to manage remotely. For example, shortness of breath related to diaphragmatic dysfunction in a patient with a continuous interscalene catheter or the patient with inadequate pain control due to catheter dislodgement. Prior to discharging patients with continuous perineural catheter infusions, a comprehensive program must be established. This includes developing a complete set of management protocols, staff education and training, comprehensive patient education and written instructions, a means of refilling pumps if necessary, a system for catheter inspection and removal, 24 hour/day access to a nurse or physician to troubleshoot or answer questions and daily contact with nursing visits or phone calls. It must also include a program to prevent limb injury and falls due to changes in strength, sensation and proprioception. The combination of complete planning, excellent staff training, careful patient selection, accurate block placement, quality infusion pump selection and management, careful pharmacologic management of local anesthetics and breakthrough pain medications, thorough patient education and frequent post-discharge follow-up will maximize patient satisfaction and reduce overall risks associated with the outpatient use of perineural catheter techniques.

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