The Regional Block Team: Providing Pain Management to Total Joint Replacement Patients
Elizabeth Hyslop, MSN, RN, ACNS-BC
Northeast Baptist Hospital

Problem: Our facility started a joint replacement specialty service which teamed perioperative personnel, specialized post-op staff, and physical/occupational therapists.

To help manage patient’s post-op pain, peripheral nerve block catheters were inserted pre-operatively. As the service grew, there became a need to streamline the process. This was done by adding a consistent nerve block service supported by the facility, anesthesiology, and a clinical nurse specialist (CNS).

Evidence: Osteoarthritis is the leading risk factor for total joint replacement in the US with as many as 700,000 people having hip and knee replacements in 2004. It is projected that total knee replacement alone will be 3.48 million by the year 2030. Nerve block teams around the country, led by trained anesthesiologists and health care professionals (HC), provide placement of specialized continuous nerve block catheters which slowly deliver local anesthetics postoperatively to help manage patients’ pain. At our facility, anesthesiologists place these catheters for our orthopedic surgeons on the average of 450-500 per year.

Strategy: Develop and improve the service through experiential learning.

Set up: Initially, materials were gathered and placed in a customized cart outfitted to the needs of the service. To perform the block, a separate area was designated that allowed for monitoring. The necessary emergency equipment/medications were made readily available. To avoid the need of constant retraining, designated personnel were assigned to the service. Finally, policies, consents and checklists were developed.

Leadership: Clinical education was provided to the perioperative staff with anatomy charts, textbooks, and video programs. Chief hospital officers were kept updated monthly during orthopedic task force meetings. During pre-admission informational meetings, nerve blocks were presented to the patients and family. On the day of surgery, additional educational brochures were provided.

Information: An algorithm was developed for post operative staff called the joint camp, to help manage nerve blocks. The CNS made post-op rounds and reported pain levels, equipment problems, and patient responses back to joint camp team and anesthesiologists.

Practice Change: In the early stages, we developed a procedural note that was specific to anesthesiology, rather than using existing forms which required a narrative. This sped up the documentation process for the team. There are continuous improvements being made to this service due to the fact that it is still relatively new.
**Evaluation:** Initially, data was collected in 2008 and 2009 on the post-op effect of these continuous nerve block catheters on postoperative pain management. The team evaluated different approaches for nerve blocks, strengths of local anesthetics used, and patient’s response to pain. Secondly, in August 2009, we formulated an algorithm for post-op management of nerve block catheters.

**Results:** The information collected from the patients’ post-op VAS scores and morphine use in 2008 and 2009, led the team to determine which physicians were most successful in performing the procedure. These physicians became the core team members and were used on a rotating basis. The algorithm is currently under construction and will be used to help clarify pain management of the nerve block catheter.

**Recommendations:**
1. Simplify the paperwork by developing pre/post surgery standalone forms for anesthesiology and HCP.
2. Establish consistent follow-up care to develop a partnership with the patients, surgical staff, and other interdisciplinary services.

**Lessons Learned:** Ongoing communication with all phases of patient care has made an improvement in the development of a nerve block team and the service it provides in pain management.

**Bibliography:**


Layzell, M. Pain management: Setting up a nurse-led regional block service. British Journal of Nursing. 2007; 16 (12): 702-705.


