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NURSING POLICY, PROCEDURE, PROTOCOL MANUAL

Pain (Acute): Regional Blocks (Peripheral Nerve/ Plexus)

NO.	NSG-2 -393	**DATE ISSUED:**	2005-09
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SOURCE:	Acute Pain Service	**DATE REVISED:**	
APPROVED BY:	(Chief of Nursing)		

POLICY STATEMENT:
Acute Pain Service (APS) patients are admitted to units where the frequency of exposure to regional analgesia support the skill and competence of the Registered Nurse (RN), and where there may be more predictable outcomes for the APS patients.
The RN must demonstrate competency in knowledge and skills required for care of a patient on the Acute Pain Service. The RN must complete the initial education program.

The APS Regional Analgesia order form will be used to prescribe the medication name, route, concentration, infusion, dose, lockout and maximum number of boluses per hour. A new APS order form (either IV PCA, Epidural or Regional Analgesia) will be initiated for each new drug or route change. A medical order is required for any changes to the initial parameters.

The patient is not to receive additional opioids, sedatives, antiemetics, NSAIDs or central nervous system depressants (CNS) ordered by the attending service, until discharged from the APS, unless discussed and approved by APS.

Follow APS guidelines for Peripheral / Plexus Nerve Blocks specific to the surgical procedure if available.

The registered nurse (RN) will ensure safe infusion of medication for pain management as per policy NSG-2-100.

Only the APS anesthesiologist may administer medication (direct push) into the catheter for the purpose of evaluation of catheter placement or inadequate analgesia.

Patients receiving regional blocks will be assessed as outlined in the APS Assessment Guideline. Assess catheter and catheter site for leakage, redness, swelling, kinking or shearing q 12 hours.

Notify APS, of symptoms suggestive of systemic toxicity such as perioral numbness, metallic taste, reported ringing in ears and seizure.

In the event of a critical event and/or malfunction of the pump, secure the pump on the clinical unit and notify the APS. Leave pump plugged in, do not clear information on the pump.

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DEFINITIONS:

APS
The acute pain service (APS) consists of Anesthesiologists, an Advanced Practice Nurse (APN) and Nurse Specialist (s) to support quality, safe and ethical patient care for perioperative analgesia in the obstetrical, surgical and trauma population.

Regional Analgesia
This is the use of a local anesthetic administered as a single dose or continuous infusion through an indwelling peripheral nerve plexus, resulting in sensory and some degree of motor block. Brachial plexus blocks are used for the upper extremity. Common approaches include interscalene, supraclavicular, infraclavicular, coracoid and axillary. Peripheral nerve blocks are used for the lower extremity. Common approaches to lower extremity include the femoral nerve block at the groin and sciatic nerve block in the popliteal fossa.
For plexus catheters, an infusion is used as the main mode of delivery. Additionally, patient controlled regional analgesia (PCRA) is used in conjunction to facilitate adequate pain control. Single injection blocks usually provide 12-14 hours of adequate analgesia post-op.

PCA Pump
This is a drug delivery pump that delivers a dose of medication as an infusion and/or allows patients to self-administer a dose of medication at specific time intervals.

PCRA
Patient Controlled Regional Analgesia (PCRA) is administration of medication by the patient using a handset to deliver prescribed doses of medication as required by the patient.

NCB
Nurse Controlled Bolus (NCB) is administration of medication by the registered nurse and indicated when the patient is cognitively or physically unable to use the handset. The physician orders the dose.

Infusion
Medication is delivered at a continuous prescribed rate. Also referred to as basal or continuous rate.

Dose
The prescribed amount of medication the patient will receive.

Delay
The time interval (minutes) between doses administered.

Injections
The number of times the patient presses the handset and receives medication.

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Attempts
The total number of times the patient presses the handset.

Adequate Analgesia
Pain score of ≤ 3/10 rest; ≤ 5/10 activity. The patient is able to rest comfortably, progress with their activity and achieve their pain management goal.

NURSING ALERTS:

1. Ensure the availability of resuscitation equipment in the clinical area.
2. Ensure IV access for the duration of the infusion.
3. For interscalene and and supraclavicular approaches, observe for coughing, complaints of chest pain or shortness of breath, and decreased air entry on the affected side.
4. Ensure the integrity of the sterile dressing over catheter site. Change the dressing using aseptic technique, if no longer occlusive or wet.
5. Prevent trauma to the blocked limb, as pain sensation is blocked and injury can occur to vital structures without the patients realization until the block wears off.
   i. aways keep the blocked arm in a sling and protect the elbow with a pillow placed under the arm to prevent ulnar nerve injury.
   ii. always keep the blocked leg adequately padded and on a pillow to prevent injury to the common peroneal nerve at the proximal head of the fibula.
   iii. ensure the patient avoids walking on the blocked leg until the block dissipates.
   iv. avoid contact of the blocked limb with hot or cold objects.
6. Ensure patient understands rationale and use of “patient controlled”, if ordered. Assess cognitive and physical function. If patient demonstrates difficulty, ascertain need for nurse - controlled bolus and obtain order from APS. Remove handset from patient.
7. Assess pain intensity; using 0 to 10 verbal analogue scale (VAS), in the patients preferred language. Refer to the Pain Resource manual located on each clinical unit.
8. Assess location of pain for femoral nerve blocks e. g. posterior knee pain is treated with opioids, whereas anterior knee pain is treated with a local anesthetic through the catheter.
9. Consider using the patient self - assessment Brief Pain Inventory (BPI) with patients screened for pre-existing pain, when information about patient’s pain over past 24 hours is required and/or to evaluate effect of interventions. Refer to the Pain Resource manual.

EQUIPMENT:
Disposable elastomerics infusor bottle containing medication
OR
Baxter I Pump (available from Logistical Services or PACU) Refer to written information for set-up
250 ml bag with medication
Epidural Pump Set tubing for 500 ml bag cover

For Removal
non sterile gloves
bandaid PRN

If infection suspected
Sterile gloves
Normal saline
Sterile swab C& S
Chlorhexidine 2% swab stick #230865

PROCEDURE:
Initiation and Maintenance

1. Connect medication bag to pump set tubing and manually prime tubing.
2. Secure medication bag in pump and thread tubing.
3. Establish pump parameters as ordered. Refer to written information to program pump as necessary.
4. Two RN's must independently verify patient's name on the armband, medication (type, concentration and dose), and the pump settings against the physician's order or documentation record as applicable:
    i. Prior to initiating the infusion
    ii. Prior to discharge from ICU and PACU
    iii. At beginning of shift (exception: 1 RN required)
    iv. If there is a change in medication type, concentration of medication, dose settings, or infusion settings (exception: 1 RN required for dose and infusion adjustments in PACU, ICU)
    v. Obtaining a new bag
5. Connect tubing to catheter. Start infusion.
6. Secure catheter to the patient. Ensure a "Regional" label is placed on the catheter.
7. Ensure gauze is placed underneath the plastic connector from the catheter to prevent excess pressure on the skin.
8. Follow the APS assessment guideline.
9. Adjust dosage and discontinue as per APS guidelines specific to the surgical procedure if available, or follow orders as per the APS.
10. When discontinued, write "D/C APS as per guideline" on the physician order form.
11. When discontinued, resume orders written by attending service for opioids, sedatives, antiemetics, NSAID's and/or CNS depressants.
12. Record medication solution obtained and wasted on Narcotic and Controlled Drug record to TOH procedure.
13. Store the pump in the soiled utility room for transport back to Logistical Services. Open battery door and flip battery. Leave door open.

Regional Catheter Removal

1. Turn off infusion pump.
2. Clean hands. Glove.
3. Remove tape and dressing and inspect site. If evidence of infection:
    a. Put on sterile gloves.
    b. Cleanse with N/S before swabbing, if presence of old drainage, crusting.

   c. Try to culture fresh new drainage by expressing fluid. Obtain swab for culture and sensitivity regardless of presence of expressed drainage.
   d. Cleanse with chlorhexidine 2% and let dry.
4. Remove catheter steadily. Slight resistance usual. If moderate resistance, stop, cover site and notify APS.
5. Apply bandaid over the site once catheter is removed.
6. Observe for radiopaque point at the tip of the catheter. Notify APS if not intact. A Health Care incident report must be completed if catheter tip is not intact.
7. Remove bandaid after 24 hours.
8. Notify APS if sensory block is not resolved within 24 hours after catheter removal.

PROTOCOL:

APS Assessment Guideline - Regional Blocks

PAIN	**Verbal Analogue Scale (VAS)** 0 – No Pain 10 – Worst pain Assess Rest and Activity Is pain preventing movement? Yes No Are you satisfied with pain control? Yes No	**Frequency** VAS q1h x 4hours; then q4h while awake q4h while awake
RR	Respiratory rate, rhythm, depth (for interscalene, infraclavicular and supraclavicular)	**Frequency** Q1h x 4 hours; then q 4h
Motor	Assess quad function for lower extremity block	**Frequency** 1 hour after initiation then q4h and prior to ambulation
Utilization	Dose amount, Injections, Attempts	**Frequency** Q4h

DOCUMENTATION:

Document on the Pain Assessment and Medication Administration Record (MAR).

- medication route (concentration and dose), dosage adjustment (s), and bag change.
- verification check, date, time and signature of the second RN.
- assessments relative to the modality, interventions and side effects, catheter site
- removal, status of catheter, presence and color of drainage, and patient response

PATIENT TEACHING:

1. Ensure patient has written patient information. Ensure the patient receives written discharge information if going home with catheter and disposable elastomeric infusor bottle.
2. Instruct the patient on the use of the handset if PCA is ordered. Ensure the patient understands that no one else is to use the handset. Inform the patient that the pump will be programmed to “lock out” for a period of time after the dose is delivered.
3. Advise the patient of the frequency of assessments including the pain intensity scale of 0 (no pain) to 10 (worst possible pain) and motor.

4. Review with the patient the goal of the pain management therapy relative to their progressive recovery.
5. Instruct patient to call for assistance when getting out of bed if peripheral nerve block of lower extremity.
6. Instruct patient to notify nurse if experiencing side effects including increased pain, perioral, numbness, irritability, disorientation, dizziness, tremor, blurred vision and seizure.

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