



**Saskatchewan
Health Authority**

Policies & Procedures

Title: **PERIPHERAL NERVE BLOCK (PNB) ANALGESIA:
POST-OPERATIVE CARE OF PATIENT &
REMOVAL OF PNB CATHETER**

RN Specialty Practice: RN Procedure: Peripheral Nerve Block Analgesia: Post- Operative Assessment, Care of Patient, Pump Management & Removal of PNB Catheter

LPNAC: Peripheral Nerve Block Analgesia: Post-Operative Assessment & Care of Patient with an Established Plan of Care

I.D. Number: **1072**

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Former SKtnHR Nursing Practice Committee

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DEFINITIONS

Established Plan of Care- the plan of care for PNB analgesia will be considered established when a patient is meeting expected outcomes of a particular surgical procedure with PNB analgesia (see Appendix A for PNB assessments). The PNB analgesia plan of care must be documented in a nursing care plan. If the patient is not achieving expected outcomes, including signs and symptoms of complications or adverse reactions, the plan of care is no longer considered established.

Local Anesthetic (LA)- A drug that when applied/injected to a specific area of the body will provide temporary loss of sensation or pain, without affecting the patient’s level of consciousness, by reversibly blocking sodium channels.

Local Anesthetic Systemic Toxicity (LAST)- A rare life threatening adverse reaction, that usually occurs within minutes of LA injection, resulting from significant levels of LA in the circulatory system. LAST is seen in body systems (i.e. CNS and CVS) that depend on sodium channels for proper functioning because the LA blocks the ability to create/respond to action potentials.

Peripheral Nerve Block (PNB)- A technique of injecting a LA solution around a peripheral nerve or nerve plexus that prevents nerve impulses from reaching the central nervous system. This technique can be used to provide anesthesia during surgical procedures and to provide analgesia into the post-operative period. Peripheral nerve blocks may be accomplished using a single injection or by inserting a specialized catheter for a continuous infusion. Continuous infusion PNB catheters may have the option of PNB **patient controlled analgesia** (i.e. on demand boluses of the LA). Continuous PNB analgesia can be continued post-operatively for approximately 48-72 hours.

Types of PNBs addressed in this Policy (see Appendix B):

- **Upper Extremity Blocks** (Brachial Plexus)
 - Axillary
 - Interscalene Block
 - Supraclavicular Block
 - Infraclavicular Block
- **Lower Extremity Blocks**
 - Femoral Nerve Block
 - Adductor Canal Block
 - Sciatic
 - Popliteal Fossa Block
 - Lumbar Plexus
- **Non-Extremity Blocks**
 - Paravertebral Block
 - Transverse Abdominis Plane (TAP) Block
 - Rectus Sheath Block
 - PECs Block

ROLES

Graduate Licensed Practice Nurse (GLPN)- GLPNs identified by their manager, in targeted practice settings, will be certified in the LPN Additional Competency of *“Peripheral Nerve Block Analgesia: Post-Operative Assessment and Care of Patient with an Established Plan of Care,”* and may provide care as assigned, for patients who are less complex, more predictable, and at lower risk for negative outcomes, with the direct supervision of a certified LPN or RN.

Graduate Nurse (GN)- GNs identified by their manager, in targeted practice settings, will be certified in the RN Specialty Practice: RN Procedure of *“Peripheral Nerve Block Analgesia: Post-Operative Assessment, Care of Patient, Pump Management & Removal of PNB Catheter,”* to provide care with the direct supervision of a certified RN.

Licensed Practical Nurse (LPN)- LPNs identified by their manager, in targeted practice settings, will be certified in the LPN Additional Competency of *“Peripheral Nerve Block Analgesia: Post-Operative Assessment and Care of Patient with an Established Plan of Care,”* and may provide care autonomously, as assigned, for patients who are less complex, more predictable, and at lower risk for negative outcomes.

If a change is required in the plan of care, the LPN will consult with a certified RN, or physician, and work collaboratively to establish a new plan of care.

Registered Nurse (RN)- RNs identified by the manager, in targeted practice settings, will be certified in the RN Specialty Practice: RN Procedure of *“Peripheral Nerve Block Analgesia: Post-Operative Assessment, Care of Patient, Pump Management & Removal of PNB Catheter.”*

If a change is required to a plan of care within an LPN’s assignment, the RN will provide consultation as needed and work collaboratively with the LPN until a new plan of care is established. The RN may need to take over patient assignment until this is accomplished.

Note: At any time, if care needs are beyond the individual competence of a certified RN, the RN will consult and work collaboratively with another certified RN or Physician to provide care.

1. PURPOSE

- 1.1 To provide safe effective pain management utilizing PNB analgesia into the post-operative period.
- 1.2 To provide consistent best practice guidelines for the assessment and care of patients receiving PNB analgesia.
- 1.3 To safely remove a PNB catheter.
- 1.4 To minimize the risk of infection, tissue damage, catheter displacement and other complications/adverse reactions (i.e. LAST) associated with PNB analgesia.

2. POLICY

<p>Anesthesiologist/Specialist: Written order required</p>	<ul style="list-style-type: none"> • The Anesthesiologist/Specialist is responsible to administer single and top-up doses of anesthetic as required. • The Anesthesiologist/Specialist is responsible for initiating PNB anesthetic (i.e. establishing patient’s sensory block), securing the infusion catheter in place, hanging the initial medication bag, and initiating infusions on the designated PNB pump. • The Anesthesiologist/Specialist is responsible for all orders regarding PNB initiation, dosage adjustments, maintenance, discontinuation and ordering of adjunct analgesics/anti-nauseants/sedatives (see order form #102973 in Appendix C).
<p>Required Nursing Education for certification:</p>	<p>The RN certified in this RNSP will have first completed the following learning module / activities prior to performing the patient care/pump management/removal of PNB catheter:</p> <p>RN Only</p> <ul style="list-style-type: none"> • Attend an educational session on PNB pumps. • Completed the ‘Peripheral Nerve Block (PNB) Analgesia Learning Package,’ available on e-learning, and review Nursing Policy #1072. • Submit a certificate of completion of the PNB Learning Package (i.e. PNB theory) to clinical nurse educator/designated resource person. • Complete the skills checklist with a certified RN to validate and ensure safety checks in regards to PNB pumps and removing a PNB catheter are followed appropriately. <p>The LPN certified in the assessment and care of a patient with PNB with an established plan of care will have first completed the following learning module/activates prior to caring for a patient with PNB.</p> <p>LPN:</p> <ul style="list-style-type: none"> • Attend an educational session on PNB Analgesia. • Completed the ‘Peripheral Nerve Block (PNB) Analgesia Learning Package,’ available on e-learning, and review Nursing Policy #1072. • Submit a certificate of completion of the PNB Learning Package (i.e. PNB theory) to clinical nurse educator/designated resource person. • Complete the skills checklist with a certified RN/LPN to validate and ensure that safety checks are followed appropriately.

<p>Nursing Roles and Responsibilities</p>	<ul style="list-style-type: none"> • Ensure the patient has an IV established and maintained for PRN use of rescue medications. • Monitor the patient’s vital signs per protocol (see Appendix A). Note: motor assessment must be done for extremity blocks and TAP blocks. • Assess patient pain and offer analgesics/adjuvant medications PRN for breakthrough pain. • Asses affected limb/area every 2 hours for pressure injury prevention. • Assess and immediately report signs and symptoms of Local Anesthetic Systemic Toxicity (LAST), allergic reaction, & adverse effects to anesthesiologist (see Appendix A). • The certified RN, or GN with direct supervision of a certified RN, will perform independent double checks for changing: premixed medication bags, infusion mode, and rate of infusion per the “High Alert Medications- Identification, Double Check and Labelling Policy #7311-60-004 located in the Regional Policy Manual. • With Anesthesiologist’s order, the certified RN (or GN with direct supervision of a certified RN) may discontinue PNB catheter.
<p>Processing orders</p>	<p>Nursing staff will process the PNB order form #102973 (Appendix C) in conjunction with orders written by the MRP.</p> <p>*Note: orders written by MRP for <u>analgesics, anti-nauseants and sedatives only</u> become active when the PNB orders are stopped.</p>
<p>Special Considerations for All Blocks</p>	<ul style="list-style-type: none"> • Day Surgery patients who have had a PNB may be discharged home once they meet ordered discharge criteria. With Anesthesiologist’s order, day surgery patients may be discharged home with a continuous infusion PNB on an elastomeric pump. • A patient with an effective nerve block in the targeted area, who is experiencing uncontrolled pain or pain in non-anesthetized areas, may be indicative of ischemia (i.e. compartment syndrome or vascular insufficiency). • Local Anesthetic Systemic Toxicity (LAST) is a rare but life threatening/fatal condition that may occur with any PNB. LAST shows both CNS & CVS manifestations that may occur within moments of initiating a PNB or after several days of LA infusion. Early detection & treatment are necessary (see Appendix A & D).
<p>Patient Monitoring and Documentation</p>	<ul style="list-style-type: none"> • See Appendix A for Monitoring. <p><u>Continuous infusions on Electronic Pumps:</u></p> <ul style="list-style-type: none"> • On patient arrival to the post-anesthetic care unit (PACU), the Anesthesiologist with a PACU RN (or two PACU RNs) will compare the pump programming and infusing solution to the PNB orders to ensure accuracy, then document this check by co-initialing beside the checked orders in section #3 on the PNB order-set (See Appendix C). • On patient arrival to nursing unit from the PACU, two RNs (PACU RN and receiving unit RN) must verify the pump programing, the infusing solution, and IV patency. Then co-sign in the appropriate space in order #8 on the PNB order sheet (see Appendix C) as documentation of the pump programming check.
<p>Pump Modalities</p>	<p><u>Electronic Continuous PNB</u></p> <ul style="list-style-type: none"> • Dedicated infusion pump equipped with Drug Error Reduction Software.

	<ul style="list-style-type: none"> • Several programmable settings for rate, dose, PCA options & drug selection. • Yellow tubing, non-ported. • Pump locked to IV pole; infusion bag locked with pump. <p><u>Elastomeric Continuous PNB</u></p> <ul style="list-style-type: none"> • Disposable pump NOT equipped with Drug Error Reduction Software. Not electronic. • Pump consists of a plastic housing and a balloon like reservoir visible through the housing. • Pump immediately delivers local anesthetic when attached to catheter tubing and will continue to infuse slowly at a standard flow rate until it is empty or discontinued. • Functions best when pump is kept at same level as the catheter insertion site. Pump must remain at room temperature. • Pump should not be submerged or exposed to a direct stream of water. • As instructed by Anesthesiologist, the day surgery patient may remove the PNB catheter and dispose of the pump/tubing in regular garbage.
<p>Other Information</p>	<ul style="list-style-type: none"> • Dermatome monitoring is not required for PNBs. • There are no special precautions related to holding/administering anticoagulants when removing a PNB catheter. • Several patient information pamphlets associated to PNBs are available (see Appendix E).

3. PROCEDURE

3.1 Post-Operative Care of the Blocked Limb or Area (Single Injection or Continuous Infusion).

- 3.1.1 Supplies:
- Oxygen, suction and resuscitative equipment (must be readily available throughout patient recovery from PNB, as a precautionary measure).
 - Patent IV while PNB effectively blocking sensations/ PNB catheter remains in place.
- 3.1.2 Perform hand hygiene and don appropriate PPE prior to entering patient room/caring for patient.
- 3.1.3 On initial admission to nursing unit, assess PNB site. Single injection: ensure site is dry and note appearance. (Continuous Infusion: see section 3.2 for site care.)
- 3.1.4 Provide skin care PRN. No tub bath or shower while PNB infusion catheter in-situ.
- 3.1.5 Maintain proper limb/area alignment (i.e. patient comfort).
- 3.1.6 Avoid contact of the blocked limb/area with hot or cold objects until sensation returns to 'normal'.
- 3.1.7 Reposition and cautiously move the blocked limb/area at least every 2 hours to avoid injury due to prolonged pressure (i.e. ROM exercises and mobilization).
- 3.1.8 Monitor patient per Appendix A. Assess patient for signs and symptoms of LAST.

- 3.1.9 Assess patient pain and provide analgesics as ordered by Anesthesiologist.
- 3.1.10 See Appendix B for a review of special considerations specific to upper extremity PNBs, Lower extremity PNBs, and Non-extremity PNBs.
- 3.1.11 Doff PPE and perform hand hygiene on exiting patient room/completion of care.

3.2 Insertion Site Care (Continuous Infusion)

- 3.2.1 Supplies:
 - Gauze and tape for reinforcing site dressing and securing infusion tubing PRN.
 - Clean gloves.
 - Male/female adapter (see 3.2.3).
- 3.2.2 Perform Hand Hygiene and don appropriate PPE prior to entering the patient room / caring for the patient
- 3.2.3 Check the insertion site and dressing **every 4 hours, with each injection** (by Anesthesiologist), **and PRN**. Ensure infusion catheter is securely taped and observe insertion site for redness, excessive bruising, swelling or infection (i.e. pain, warmth, discharge).

NOTE: if insertion site is a suspected source of infection, the tip must be cultured on removal (see section 3.3).
- 3.2.4 Assess PNB Catheter site, tubing (i.e. ensure it remains connected), and dressing before moving the patient. Be cautious when moving or turning patient, so that the catheter does not become dislodged (if dislodged, see section 3.2.6).
- 3.2.5 If infusion tubing becomes disconnected:
 - Stop the infusion.
 - Cover tubing ends with a male/female adapter.
 - Contact Anesthesiologist Immediately.
- 3.2.6 Do not remove the primary PNB dressing, unless specifically ordered by Anesthesiologist.
- 3.2.7 Observe for a wet dressing indicating leakage of blood or medication. If dressing becomes saturated: notify Anesthesiologist and, with appropriate hand washing/PPE, reinforce dressing around initial dressing if necessary.
Doff PPE and Perform hand hygiene on exiting patient room / completion of care

3.3 Removing Peripheral Nerve Block (PNB) Catheters (Certified RN ONLY).

- 3.3.1 Supplies:
 - Clean gloves
 - 2 x 2 gauze

- If sutured in place: dressing tray (with forceps), sterile suture scissors or stitch cutter
- Small sterile dressing (e.g. Island dressing, Mepilex border or Tegaderm)
- If tip/site is to be cultured: Dressing tray, sterile scissors, sterile specimen container, culturette swab, requisition and labels
- Chlorhexidine 2%/70% alcohol swab stick.

3.3.2 Perform hand hygiene.

3.3.3 Explain the procedure to the patient. Position patient so that catheter site is easily accessible.

3.3.4 Turn off infusion pump.

3.3.5 Perform hand hygiene

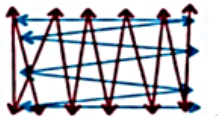
3.3.6 Place sterile field to receive catheter if tip culture is ordered.

3.3.7 Don gloves.

3.3.8 Remove dressing and tape.

NOTE: Catheter may come out with dressing if not sutured in place. If catheter sutured, cleanse site with Chlorhexidine 2%/70% Alcohol swab stick then carefully remove sutures.

Disinfect skin over port with 2% Chlorhexidine/Alcohol 70% swab stick applicator. Using friction clean using a back and forth motion for 15 seconds. Flip the swab stick and moving in opposite direction clean area using a back and forth motion for another 15 seconds. Allow to dry completely



3.3.9 Gently withdraw catheter steadily and place on sterile field if tip is to be sent for C&S.

Note: If unable to remove the catheter or there is any resistance upon removing catheter, stop and notify anesthesiologist immediately.

3.3.10 Assess the catheter site for unusual bleeding, bruising, swelling, or redness.

Note: If evidence of infection, obtain swab for C & S from the site and notify physician.

3.3.11 After catheter removal, swab site with Chlorhexidine 2%/70% Alcohol swab stick (see 3.3.7) and apply small sterile dressing.

- 3.3.12 Check catheter tip to ensure it is intact (i.e. confirm the presence of a blue or black tip). If not intact notify the anesthesiologist immediately.
- If the PNB catheter is suspected as a source of infection: Use sterile scissors to remove 5 cm from the distal end of catheter and place in sterile container and label specimen container at bedside.
 - Dispose of catheter tubing in biohazard bin.
 - Remove PPE and perform hand hygiene
- 3.3.13 Assess site one hour following catheter removal for any persistent fluid leakage localized bleeding, expansion of bruising or hematoma. If present notify the anesthesiologist immediately.
- 3.3.14 Remove dressing in 24 hours (with appropriate hand hygiene and PPE use). It is not necessary to re-dress site.
- 3.3.15 Document the:
- Date and time of removal
 - Condition of insertion site
 - Condition of catheter tip
 - If any bleeding, fluid drainage, hematoma at catheter site present
 - Whether tip/site was cultured
 - Patient response to procedure
 - Complications and intervention
- 3.3.16 Report to the anesthesiologist if:
- There is alteration to sensation or movement during or following removal; or if catheter tip not intact on removal.
 - If persistent fluid leakage, localized bleeding or expansion of bruising or hematoma is noted.
 - If sensory block is not resolved within 24 hours after catheter removal.

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POST-OPERATIVE PATIENT MONITORING AND DOCUMENTATION PROTOCOL

Monitor on initiation; restart monitoring on dose increase or decrease.

NOTE: DOCUMENT ALL REQUIRED MONITORING ON APPROPRIATE DOCUMENTATION RECORD.

Peripheral Nerve Block																
<ul style="list-style-type: none"> BP, HR, RR, SpO2, Motor Function, Sensation, Pain and Sedation Scale. Assess for signs for Local Anesthetic Systemic Toxicity. Assess Q2h for pressure injury prevention, until PNB wears off. 																
<ul style="list-style-type: none"> Motor Function Scale – 2 – No weakness 1 – Some weakness of legs/feet 0 - Unable to move Sensation Scale – 2 – Normal – no block 1 – Partial sensation 0 – Complete numbness 																
Frequency of Monitoring: <ul style="list-style-type: none"> Single Injection – Q1h x 4 → Q4h x 24 hours or until discharge (i.e. day surgery patients) Continuous Infusion – Q1h x 4 → Q4h during infusion → Q4h x 24 hours once infusion is discontinued 																
Pain Scale (Self Reporting)																
No Pain 0 ←—————→ 10 Worst Pain																
<table border="1"> <tr> <td rowspan="2">Visual Pain Scale</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>0</td> <td>2</td> <td>4</td> <td>6</td> <td>8</td> <td>10</td> </tr> </table>				Visual Pain Scale							0	2	4	6	8	10
Visual Pain Scale																
	0	2	4	6	8	10										
Pain Scale (Not Self Reporting)																
Behavior	0	1	2													
Breathing	Normal	- Occasional labored breathing - Short period of hyperventilation	- Noisy labored breathing - Long period of hyperventilation - Cheyne-Stokes respirations													
Negative vocalization	None	- Occasional moan or groan - Low level speech with negative or disapproving quality	- Repeated troubled calling out - Loud moaning or groaning - Crying													
Facial expression	Smiling or neutral	- Sad, frightened, frown	- Facial grimace													
Body language	Relaxed	- Tense, distressed pacing, fidgeting	- Rigid, fists clenched, knees pulled up, pushing or pulling away, striking out													
Consolability	No need to console	- Distracted or reassured by voice or touch	- Unable to console, distract or reassure													
Total Score (of all 5 behaviors)			/10													
Sedation Scale – Pasero Opioid-induced Sedation Scale (POSS)																
S = Sleep, easy to rouse	→ Acceptable ; no action necessary.															
1 = Awake and alert	→ Acceptable ; no action necessary.															
2 = Slightly drowsy, easily roused	→ Acceptable ; no action necessary.															
3 = Frequently drowsy, arousable, drifts off to sleep during conversation	→ Unacceptable ; <ul style="list-style-type: none"> Monitor respiratory status and sedation level closely until sedation level is stable at less than 3 and respiratory status is satisfactory. Review orders set & notify Anesthesiologist/Specialist. 															
4 = Somnolent, minimal or no response to verbal and physical stimulation	→ Unacceptable ; <ul style="list-style-type: none"> Stop opioid; consider administering naloxone. If respiratory rate is less than 10 refer to order set. Notify Anesthesiology/Specialist. Continuously monitor patient until stable or other orders obtained. 															

REPORT IMMEDIATELY TO ANAESTHESIOLOGIST:

- **Signs and Symptoms of Local Anesthetic Systemic Toxicity (see table below)**
- **Abnormal loss of movement**
- **Disconnection of catheter from tubing**

LAST: CNS Signs & Symptoms of Anesthetic Toxicity	LAST: CVS Signs & Symptoms of Anesthetic Toxicity	Other Adverse Effects & Potential Complications
<ul style="list-style-type: none"> • Metallic taste in mouth • Numbness / tingling of lips • Tinnitus • Confusion • Slurred /garbled speech • Tremors • Seizures • Drowsiness • Unresponsiveness 	<ul style="list-style-type: none"> • Irregular heart beat • Bradycardia / Tachycardia • Hypo / Hypertension • Cardiac Arrest 	<ul style="list-style-type: none"> • Blood in tubing • Catheter occlusion • Leakage at site • Saturated Dressing • Uncontrolled pain • Hematoma / infection at site • Migration of catheter tip • Hives • Unilateral ptosis • Excessive paresthesia • Respiratory depression/compromise • Pneumothorax/hemothorax

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If Local Anesthetic Systemic Toxicity is suspected:

1. Stop the infusion pump.
2. Initiate emergency protocol: contact Anesthesiologist STAT & initiate CCA STAT/outreach/code blue as appropriate.
3. Assess patient’s vital signs.
4. Administer oxygen as needed.
5. Assess patient’s neurological status: level of consciousness, orientation, dermatome levels (non-extremity blocks), and motor function of extremities.
6. Confirm patient has IV access. Administer IV fluids as needed.
7. Provide CPR as needed.
8. Locate and administer lipid emulsion per physician’s orders (for Lipid Infusion Guide see Appendix D).

Types of Peripheral Nerve Blocks

Appendix B

General Care

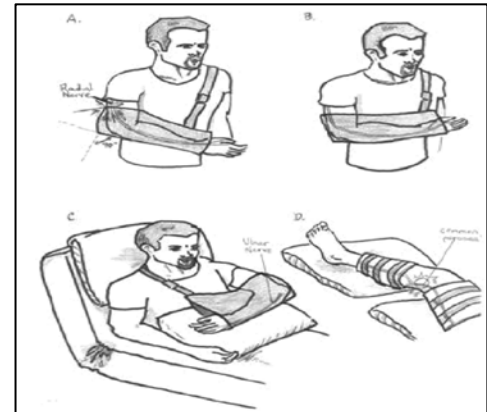
- Move blocked limb cautiously but as often as possible to avoid prolonged pressure on the blocked limb
- Provide skin care and maintain limb alignment
- Avoid contact of the blocked area with hot or cold objects

Upper extremity PNB

- Keep limb in sling
- Protect elbow with a pillow placed under the arm (prevent ulnar nerve injury)

Lower extremity PNB (Sciatic & TAP Block for mobility check/safety)

- Keep limb padded and on a pillow (prevent injury to peroneal nerve)
- Assess quad function prior to mobilizing
- Ensure 2 persons assist to transfer/mobilize until sensation returns
- Ensure patient avoids walking on blocked leg until sensation returns



Type of Block		Indications	Potential Complications
Upper Extremity Blocks (Brachial Plexus)	Axillary	<ul style="list-style-type: none"> • Outer proximal arm pain 	<ul style="list-style-type: none"> • LAST
	Interscalene	<ul style="list-style-type: none"> • Shoulder & proximal arm pain 	<ul style="list-style-type: none"> • <i>Horner's Syndrome</i> • Respiratory compromise • Spinal/Epidural/vertebral Artery Injection/blockade • Pneumothorax/Hemothorax
	Supraclavicular	<ul style="list-style-type: none"> • Mid to distal arm pain 	<ul style="list-style-type: none"> • Pneumothorax/Hemothorax • Respiratory Compromise
	Infraclavicular	<ul style="list-style-type: none"> • Mid to distal arm pain 	<ul style="list-style-type: none"> • Pneumothorax/Hemothorax • Respiratory Compromise
Lower Extremity Blocks	Femoral Nerve	<ul style="list-style-type: none"> • Anterior & Lateral Leg pain (hip, thigh, knee & ankle) • Does not block posterior & medial leg pain 	<ul style="list-style-type: none"> • Muscle weakness = fall risk • Foot drop (Sciatic only)
	Adductor Canal (*LA injected into an intermuscular canal of the mid-third of thigh)	<ul style="list-style-type: none"> • Knee, ankle, foot pain • Less quadriceps weakness than femoral block 	
	Sciatic	<ul style="list-style-type: none"> • Leg Pain (Hip, thigh, knee, lower leg & foot) 	
	Lumbar Plexus (psoas sheath block)	<ul style="list-style-type: none"> • Hip and lower limb pain 	<ul style="list-style-type: none"> • Limited motor control and sensation from hip downwards • Fall risk
	Popliteal	<ul style="list-style-type: none"> • Foot & ankle pain 	<ul style="list-style-type: none"> • Vascular puncture • Limited motor control and sensation to foot

Non-Extremity Blocks	Paravertebral	<ul style="list-style-type: none"> Chest or abdominal wall pain (i.e. mastectomy, inguinal/abdominal hernia repair, nephrectomy) 	<ul style="list-style-type: none"> Pneumothorax Pleural puncture Epidural/spinal spread of local anesthetic
	PECs (*inter-fascial plane block)	<ul style="list-style-type: none"> Anterior chest wall/pectoral muscle pain (i.e. breast surgeries) 	<ul style="list-style-type: none"> Pneumothorax Trauma to vessels
	Transverse Abdominis Plane (TAP)	<ul style="list-style-type: none"> Anterior abdominal wall pain. Has effect on incisional pain but does not affect visceral pain. Used when epidural contraindicated 	<ul style="list-style-type: none"> Bowel or visceral organ perforation Intraperitoneal injection LA may block femoral nerve = difficulties with ambulation.
	Rectus Sheath (*usually a single injection of LA)	<ul style="list-style-type: none"> Lower abdominal wall pain (midline/umbilical incisions; blocks T9-11) Does not affect visceral pain 	<ul style="list-style-type: none"> Catheter migration Wound infection Bowel or visceral organ perforation

PNB Order Form # 102973

Appendix C

SASKATOON HEALTH REGION Saskatoon, Saskatchewan		IMPRINT BELOW THIS LINE													
<input type="checkbox"/> RUH <input type="checkbox"/> SCH <input type="checkbox"/> SPH OTHER _____															
PHYSICIAN'S ORDERS Page 1 of 2															
DATE	TIME	ORDERS AND SIGNATURE Peripheral Nerve Block Orders – page 1 of 2	PROCESSED												
			TIME	M A R	I C P	R E Q	R N								
		1. For analgesics, anti-nauseants and sedatives please follow the orders on Page 2 (sections 5 and 6) of this order set until the orders are stopped (usually within 24 or 48 hours). Orders for these medications written by other physicians (i.e. surgeons) will become active ONLY when the Peripheral Nerve Block Orders are stopped.													
		2. Ensure patent IV in situ while peripheral nerve block is in place.													
		3. Nerve Block Medication Orders a. Intraoperative neuraxial route: <input type="checkbox"/> Intrathecal <input type="checkbox"/> Epidural <input type="checkbox"/> N/A Morphine _____ mg at _____ hrs on ____/____/____ b. Peripheral Nerve Block SINGLE INJECTION (for 24 hours) Plexus site: <input type="checkbox"/> Femoral <input type="checkbox"/> Interscalene <input type="checkbox"/> Popliteal/Sciatic <input type="checkbox"/> Other _____ <input type="checkbox"/> Ropivacaine _____ mL of _____ % at _____ hrs on ____/____/____ <input type="checkbox"/> Other _____ at _____ hrs on ____/____/____ c. Peripheral Nerve Block INFUSION (for 48 hours) Plexus site: <input type="checkbox"/> Femoral <input type="checkbox"/> Interscalene <input type="checkbox"/> Popliteal/Sciatic <input type="checkbox"/> Other _____ <input type="checkbox"/> Ropivacaine 0.2% (2 mg/mL) <input type="checkbox"/> Other _____ CONTINUOUS INFUSION _____ mL/hr started at _____ hrs on ____/____/____ Discontinue at _____ hrs on ____/____/____ PCA BOLUS _____ mL every 30 minutes (MAXIMUM - 2 boluses/hour) Discontinue at _____ hrs on ____/____/____ CATHETER Discontinue at _____ hrs on ____/____/____ Call anesthesia if there is any resistance when removing catheter.				★ Initials here									
		4. Monitoring • SINGLE INJECTION: q1h x 4 then q4h x 24hrs or until discharge • INFUSION: q1h x 4 then q4h x remainder of infusion plus 24 hours following discontinuation													
		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:25%;">Sensation</td> <td style="width:50%;">Assessment of need and use of adjunct medication</td> <td style="width:25%;">Pain scale/location</td> </tr> <tr> <td>Motor function</td> <td>Signs of local anesthetic toxicity</td> <td>Sedation level</td> </tr> <tr> <td>BP, P, RR, SpO₂</td> <td></td> <td>Side effects</td> </tr> </table> While catheter in situ, check insertion site and dressing every shift. Assess motor strength prior to each ambulation. Two persons to mobilize if patient has had a femoral nerve block.	Sensation	Assessment of need and use of adjunct medication	Pain scale/location	Motor function	Signs of local anesthetic toxicity	Sedation level	BP, P, RR, SpO ₂		Side effects				
Sensation	Assessment of need and use of adjunct medication	Pain scale/location													
Motor function	Signs of local anesthetic toxicity	Sedation level													
BP, P, RR, SpO ₂		Side effects													
		PHYSICIAN'S PRINTED NAME:													
		PHYSICIAN'S SIGNATURE:													
		PNB													
<small> Notice of confidentiality: Contains information that is time sensitive or confidential. Use, disclosure, copying or communication of the contents is prohibited. If you have received in error, notify the SHR Pharmacy Manager, Operations (306-566-0096). Word Form # 102973 11/12 Category: Orders </small>															

<p>SASKATOON HEALTH REGION Saskatoon, Saskatchewan</p> <p><input type="checkbox"/> RUH <input type="checkbox"/> SCH <input type="checkbox"/> SPH OTHER _____</p> <p>PHYSICIAN'S ORDERS Page 2 of 2</p>		<p>IMPRINT BELOW THIS LINE</p>					
DATE	TIME	ORDERS AND SIGNATURE	PROCESSED				
			TIME	M A R	I C P	R E Q	R N
		Peripheral Nerve Block Orders – page 2 of 2					
		<p>5. Adjunct Treatment (SINGLE INJECTION x 24hrs; INFUSION x 48hrs or while catheter in situ)</p> <p><input type="checkbox"/> Acetaminophen 975 mg PO/PR qid (Maximum 4 g acetaminophen per day)</p> <p><input type="checkbox"/> Celecoxib 100 mg PO bid OR <input type="checkbox"/> Celecoxib 200 mg PO bid</p> <p><input type="checkbox"/> Gabapentin 100 mg PO tid OR <input type="checkbox"/> Gabapentin 200 mg PO tid</p> <p><input type="checkbox"/> HYDROMorphone Slow Release: <input type="checkbox"/> 3 mg PO bid OR <input type="checkbox"/> 6 mg PO bid (Start at 2000h on post-op day 0)</p> <p><input type="checkbox"/> HYDROMorphone Immediate Release: <input type="checkbox"/> 1 - 4 mg PO q 4h pm OR <input type="checkbox"/> 2 - 8 mg PO q4h pm (for breakthrough pain)</p> <p><input type="checkbox"/> MORPhine 2 - 5 mg IV q1h pm x 24 hours for breakthrough pain only if oral HYDROMorphone ineffective (max. 3 doses total)</p> <p><input type="checkbox"/> Zopiclone 3.75 - 7.5 mg PO at hs pm insomnia</p> <p><input type="checkbox"/> Other: _____</p>					
		<p>6. Treatment of Side Effects (SINGLE INJECTION x 24hrs; INFUSION x 48hrs or while perineural catheter in situ)</p> <p>Respiratory depression (if patient unarousable and/or RR less than 10/min)</p> <ul style="list-style-type: none"> • Call anesthesiologist STAT • Administer oxygen at 10 L/min per mask • Naloxone 0.1 mg IV STAT and assess response; may repeat q3min for a total of 3 doses <p>Nausea / Vomiting</p> <ul style="list-style-type: none"> • dimenhyDRINATE 25 - 50 mg PO/IV q4h pm • Ondansetron 4 mg IV q6h pm . Avoid giving ondansetron to treat established post-op nausea and vomiting if it was used within the last 6 hours as prophylaxis. <p>Pruritis</p> <ul style="list-style-type: none"> • diphenhydrAMINE 25 - 50 mg PO/IV q4h pm 					
		<p>7. Call _____ at _____ if significant changes in patient condition or if questions/concerns about the catheter/nerve block or pain management.</p>					
		<p>8. Verification on arrival to ward PACU RN _____/Ward RN _____</p>					
		<p>PHYSICIAN'S PRINTED NAME:</p>					
		<p>PHYSICIAN'S SIGNATURE:</p>					
			PNB				
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Local Anesthetic Systemic Toxicity (LAST) Treatment

Intralipid 20% for treatment of LAST is stored:

RUH	SCH	SPH
On OR medication carts and rolling 'block cart'	Unit 3600 on 'block carts'	OR- Intralipid kit in sterile core on shelf by anesthetic supplies

**** This Appendix is under review. For the interim, recommend use of the Alberta Health Services, PADIS guidelines for the use of intravenous lipid emulsion therapy (Note: PADIS guidelines are updated annually and when research warrants change).**

**** Contact PADIS at 1-866-454-1212 for information or to speak to an Information Specialist / Medical Toxicologist.**

Appendix E

Patient Information Pamphlets

Pamphlet Title	Form Number
Adductor Canal Block	104007
Fascia Iliaca Nerve Block	104008
Femoral Nerve Block	103729
Infraclavicular Nerve Block	103730
Interscalene or Supraclavicular Nerve Block	103731
Managing Your Pain at Home Booklet	103615
Paravertebral Nerve Block	103877
PECs Nerve Block	*No form number
Popliteal Nerve Block	103732
Rectus Sheath Nerve Block	*No form number

*Note: there is a special process to order booklet from printing service.

Associated Documents

- Learning Package: Peripheral Nerve Block Analgesia (2018 Revision)