Post Anesthetic Care Unit (PACU) Discharge Criteria Requirements (Adult) - Phase 1

Site Applicability

All VCH Post Anesthetic Care Units

Practice Level

Profession	Setting(s)	Skill Level
Registered Nurse (RN)	**PACU**	Speciality Education in Critical Care **Rural Areas**: Education and Training in PACU **VGH**: Additional requirement to complete Independent Discharge Checklist

Requirements

- PACU RNs may discharge patients from Phase 1 when the patient meets the defined discharge criteria outlined in this document
- **UBCH, LGH, qGH**: Discharge Criteria Assessment met, and Modified Aldrete score of 8/10 (Appendix A)
- **VGH**: Specified surgical procedures have required lengths of stay in PACU outlined in Guide for Minimum Length of Stay (Appendix B)
- **LGH**: Post General Anesthetic minimum length of stay is 60 minutes for inpatients and 30 minutes for surgical day care patients if all discharge criteria met.
- The following patients will require an Anesthesiologist or Family Practice Anesthetists (FPA) clearance:
    - Patients requiring Positive Airway Pressure therapy (PAP) or an FiO_2 greater than 0.40
    - Patients with diagnosed or suspected Obstructive Sleep Apnea (OSA)
    - Patients on Myocardial Injury after Non-cardiac Surgery (MINS) Protocol
    - Patients who are home ventilator dependant
    - Any patient who does NOT meet discharge criteria outlined in this document

Need to Know

Phase 1 entails providing patient care in the immediate Post Anesthetic period. A standardized Phase 1 discharge criteria is utilized to determine if a patient can SAFELY transition from PACU to the next level of care**.** This outlined discharge criteria excludes patients transferred from PACU to Intensive Care Unit (ICU) or High Acuity Unit (HAU). **Exception: UBCH** HAU patients must meet PACU Phase 1 discharge criteria.

Discharge Criteria Assessment

Assessment	Criteria
NEUROLOGICAL	• Oriented to person, place and time • Obeys commands • Easy to rouse and sedation score is equal or less than 2 using the PASERO Opioid Induced Sedation Scale (POSS) (Appendix C) • Adequate skeletal muscle tone as evidenced by head lift sustained for a minimum of 5 seconds, and moderate to strong hand grips • Full movement and sensation of all extremities. **Exceptions**: Spinal Anesthetic and Nerve Block **Exception:** Neurological status has returned to expected or pre-anesthetic baseline

RESPIRATORY	• Respiration spontaneous, regular at a rate of 8 to 20 per minute. SpO_2 93% or greater or within ordered range for a minimum of three consecutive 15 minute interval checks. **LGH:** 10-minute intervals
	• Post Endotracheal Tube (ETT) Extubation in PACU – Patient remains in PACU for a MINIMUM 60 minutes
	• Intact protective airway reflexes: Patient able to cough and clear secretions
	• For patients with Arterial Blood Gas (ABG) results Partial Pressure of Carbon dioxide ($PaCO_2$) must be less than 50mmHg
	• No artificial airways. **Exceptions:** Tracheostomy, Laryngectomy tubes and surgically placed and sutured nasopharyngeal airways
	• Oxygen requirements:
	  ○ For Face tents, trach masks or Humidified High Flow O_2 must be less than 0.40 FiO_2
	  ○ For nasal prongs O_2 must be less than or equal to 4L per min
	  ○ Stable, with no adjustments made for a minimum of 15 minutes prior to discharge
	• **VGH**: All patients on PAP therapy (home or new) will require clearance and disposition determination from the Anesthesiologist prior to PACU discharge. For new BiPAP – Anesthesiologist will consult with critical care/CCOT physician.
	• Notify Respiratory Therapy for patients requiring PAP therapy, High Flow therapy or a Home Ventilator. **qGH**: Notify RT or Internal Medicine

OBSTRUCTIVE SLEEP APNEA (OSA)	• Phase 1 Criteria must be MET prior to initiation of OSA "room air challenge" • Patient must successfully complete a 15-minute room air challenge by having no respiratory events* ○ The **room air challenge** is a 15-minute trial on room air while a patient is unstirred, with or without CPAP • Following a successful room air challenge, the patient must remain an additional ONE hour extended stay. **Exception**: If Anesthesiologist waives the extended ONE hour stay, or if the patient has remained in PACU for three hours • If the patient experiences a respiratory event, then the patient must remain in PACU for ONE hour after the last respiratory event • PASERO sedation score MUST be 1 at time of discharge unless transferred to a monitored bed *__Respiratory Events__ - Apnea greater than or equal to 10 seconds, desaturation less than 90%, respiration less than 8 breaths per minute
CARDIOVASCULAR	• Vital signs remain stable and within acceptable limits for a minimum of three consecutive checks, at 15 minute intervals. **LGH**: Vitals checked at 10 minute interval • Blood pressure and heart rate remain stable within 20% pre-operative value. For systolic **blood pressure less than 90 mmHg consult with Anesthesiologist prior to discharge** • Able to maintain blood pressure with head of bed (HOB) greater than or equal to 30 degrees unless contraindicated to surgical procedure • Extremities warm and perfused • Cardiac rhythm stable and equivalent to preoperative status
THERMOREGULATION	• Independently maintains temperature between 36°C and 38°C • Temperature assessed within 30 minutes of discharge
GASTROINTESTINAL	• Post operative nausea and vomiting (PONV) absent or controlled to a tolerable level for the patient • Nasogastric Tube - secured, patent with appropriate returns, placement confirmed by XRAY or by surgical staff intraoperatively • Entriflex Tube - Sutured or secured with tape. Placement confirmed by XRAY from the surgical team
GENITOURINARY	• Bladder non-distended or scanned bladder volume is less than 400ml. **Exception: RH**: Orthopedic patients bladder volume less than 600ml • If urinary catheter is in situ – Catheter secured, minimum urine output 0.5ml/kg/hour

	• Continuous Bladder Irrigation (CBI): Ensure catheter is secured, patent, and returns are clear or slightly serosanguineous <u>Bladder Scanning</u> • Required when surgical procedure or stay in PACU is greater than four hours • Post Spinal Anesthetic within 60 minutes of anticipated discharge • Spine surgery within 60 minutes of anticipated discharge (**Exception: LGH**) • Required if any evidence of urinary retention including catheter obstruction
SURGICAL PARAMETERS	• All dressings dry and intact or reinforced with no evidence of active bleeding • Drainage tubes patent and secured. Returns from drainage tubes appropriate to procedure performed • Surgery-specific assessments within normal parameters
PAIN ASSESSMENT	• Patient verbalizes pain as less than or equal to their acceptable pain score using the appropriate tool for their cognitive understanding (numeric or verbal) • Assessed and documented using the Behavioral Pain Score (BPS) assessment tool (Appendix D) for patients unable to self report pain • Patient able to take deep breaths without experiencing significant pain or discomfort
NEURAXIAL (SPINAL AND EPIDURAL)	• No evidence of Local Anesthetic Systemic Toxicity (LAST) (Appendix E) • Must be able to tolerate head of bed at 30 degrees, without hypotension or headache <u>Spinal</u> • Must regress to sensory dermatome L1 bilaterally • If patient's sensory dermatome level is at L1 or lower on arrival to PACU, ensure that the sensory level has regressed a MINIMUM of one dermatome level prior to discharge (Appendix F) • Anesthesiologist may choose to lower the dermatome to below the surgical site to ensure adequate pain control • **LGH**: Motor score of zero using the Bromage scale (Appendix G) <u>Epidural</u> • Sensory block at T3 or below with no evidence of hypotension • Motor block score zero using the Bromage scale (Appendix G)

	• Motor block assessment completed within 30 minutes of discharge • Epidural insertion site dressing dry and intact
NERVE BLOCKS (PERINEURAL, FASCIAL PLANE OR PARAVERTEBRAL)	• No evidence of Local Anesthetic Systemic Toxicity (LAST) (Appendix E) • Distribution of sensory or motor impairment appropriate to type of block • Blocked limb in alignment and position to prevent nerve compression
LINES	• IV infusion – IV insertion site satisfactory, patent with ordered IV fluid infusing at correct rate • 14 gauge IVs and Cordis MUST be removed prior to discharge • Central Venous Catheter (CVC), sutured or secured. Placement verified via X-RAY, extra stopcocks removed, blue plastic clamps at bedside • Positive pressure (MaxPlus) attached to CVC and IVs • All lines and tubes traced to source Removal of Femoral Arterial lines, Intra-Arterial Angio-Catheters or Sheaths • Patients to remain in PACU MINIMUM 60 minutes Removal of Radial, Brachial Arterial line, CVC or Cordis (do not remove indicated lines if patient transferred to next level of care that has monitoring capabilities) • Patient to remain in PACU MINIMUM 30 minutes • Ensure hemostasis achieved on all lines removed, no evidence of hematoma, dressings dry and intact
BLOOD PRODUCTS	• RN must accompany on transport if infusion in progress • No evidence of active bleeding, transfusion reaction or volume overload with any blood product transfusion Blood products administered for VOLUME/FACTOR REPLACEMENT: • Transfusion must be complete and post infusion vital signs stable for three consecutive 15 minute checks. **LGH:** q 10 minute checks Blood products administered for HEMOGLOBIN transfusion (stable patient): • Initiate infusion and assess vital signs for 3 consecutive 15 minute checks prior to transfer **LGH**: q 10 minute checks
COMFORT AND SAFETY	• Patient's ability to turn upper body to protect airway assessed • Skin integrity assessed and documented • Patient appropriately covered • Linen clean and dry

	• Bed rails elevated at all times to prevent falls
MEDICATIONS	Medication Administration and Discharge: (Appendix H)
PHYSICIAN ORDERS	• Anesthesiologist Orders initiated and processed. **Exception:** Anesthesia Multi-Modal Pain Management Powerplan • Surgeon Immediate Post-Operative orders initiated and processed • All active orders reviewed and processed: Blood work, ECG, Chest X-ray and any other tests reviewed in PACU by ordering physician • Anesthesia Orders discontinued at patient departure from PACU except anesthesia pain modality powerplans (i.e. Epidural)
DOCUMENTATION	Document all pertinent information related to discharge status: • Phase 1 Discharge Criteria Met or Not Met • Anesthesiologist Order required if Discharge Criteria NOT Met • Time of Discharge • RN responsible for Discharge • Name of RN receiving Handover **VGH:** RN without independent discharge must have a Nurse Clinician or another experienced PACU RN to review and co-sign
PATIENT ACCOMPANIMENT REQUIREMENT	In-addition to the patients outlined in the Patient Accompaniment within the hospital (Intra-hospital) DST, RNs must also accompany patients: • Maxillofacial surgery with jaw fixation (elastics or wire) • Transferred to Critical Care units, HAU, Neuro ICU and Step-down units **UBCH HAU**: Unmonitored patients will not require RN accompaniment • Free Flaps • **LGH**: Pediatric tonsillectomy or adenoidectomy Ensure appropriate emergency equipment accompanies patient on transfer (i.e. wire cutters, chest tube equipment)
SAFE TRANSFER OF CARE	**LGH:** Patients with a complicated, prolonged PACU stay - a CCOT referral will be made by the PACU Charge Nurse in consultation with the anesthesiologist. CCOT will assess the patient within 6-12 hours of transfer to in-patient unit. Provide verbal report for the following: • Overnight patients • Extended stay patients greater than 4 hours • Extensive surgical procedure • Intraoperative or post op complications • Patients discharged to Critical Care, HAU, Neuro ICU and Step-down units • Patient transferred to a non-surgical or off-service unit • After 1900, nights and weekends

	• **RH**: Fax patient report and follow up call • **UBCH**: Fax report for all surgical patients. Call report for HAU patients, if no response Fax report In Person Report: • Free Flap Assessment The RN should include the following information in the safe transfer report: • Name, age • Allergies • Code status • Precautions • Medical History: Previous surgeries, Hospitalizations, Physical limitations • Surgical procedure • Type of Anesthetic, hemodynamics, fluid balance, blood loss • Complications intra-op, or in PACU • Neurological status and sedation score • Vitals, surgical site and dressings, drainage tubes, pain assessment, Post Op Nausea and Vomiting (PONV), medications administered and infusing. Intravenous lines and fluid infusing • Tests or treatments, lab work • Post op orders • Plan of care • Social support

Related Documents

Guidelines/Procedures/Forms

- Documentation (in Cerner): PACU (Phase I)
- General Policies: Transfusion of Blood Components and/or Blood Products
- IV Therapy, Peripheral: Insertion, Care and Maintenance
- Nerve Blocks (Perineural, Fascial Plane, or Paravertebral): Care and Management
- Non-Tunneled Central Venous Catheter (NT-CVC) – Basic Care and Maintenance (Adult)
- Obstructive Sleep Apnea: Care of the Patient in PACU
- PACU Orders: Patients with Diagnosed or Suspected Sleep Apnea
- Patient Accompaniment within the hospital (Intrahospital): Transport for tests, treatments, procedures and transport between care areas
- Seizure Management (Adult/Pediatric)
- Tube Feeding: Small Bore Feeding Tube (Entriflex®, Rusch®), insertion of
- Urinary Retention: Nursing Management (Adults & Pediatrics)

References

1. Aldrete, A. (1998). Modifications to the post anesthesia score for use in ambulatory. *Journal of PeriAnesthesia Nursing,* 13(3), 148–155. https://doi.org/https://doi.org/10.1016/S1089-9472(98)80044-0
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3. American Society of PeriAnesthesia Nurses (ASPAN). (2021). *Perianesthesia Nursing Core Curriculum: Preprocedure, Phase 1 and Phase 2 PACU Nursing* (4th ed.). Eds. L. Schick & P. E. Windle. Elsevier.
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7. Guidelines to the Practice of Anesthesia. (2014). *Canadian Journal of Anesthesia*, 61 (1), 46-71. https://doi.org/10.1007/s12630-013-0074-9
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9. National Association of PeriAnesthesia Nurses of Canada. (2023) *Standards for Practice* (5th ed.). NAPANc.
10. Odom-Forren J, Ed. (2023) Drains Paranesthesia Nursing: A Critical Care Approach (8thEd). Elsevier, St. Louis, Mosley
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12. Spinal Anesthesia. Retrieved from Spinal Anesthesia - NYSORA | NYSORA
13. Providence Health Care. PACU Discharge (2022)

Appendices

- Appendix A: Modified Aldrete Scoring System
- Appendix B: Minimum Length of Stay
- Appendix C: PASERO Opioid-Induced Sedation Scale (POSS)
- Appendix D: Behavioral Pain Scale
- Appendix E: Local Anesthetic Systemic Toxicity (LAST)
- Appendix F: Dermatomes
- Appendix G: Bromage Scale
- Appendix H: Medication Administration and Discharge

Appendix A: Modified Aldrete Scoring System

Category	Description of Status	Aldrete score
Respirations	Able to deep breathe and cough freely Dyspnea or limited breathing Apneic	2 1 0
O_2 Saturation	Able to maintain O_2 saturation > 92% on room air Requires supplemental O_2 to maintain SpO_2 > 90% O_2 saturation < 90% even with supplemental O_2	2 1 0
Circulation	BP +/- 20% pre-op value BP +/- 20-50% pre-op value BP +/- > 50% pre-op value	2 1 0
Level of Consciousness	Awake and oriented Wakens with stimulation Not responding	2 1 0
Movement	Moves 4 limbs on own Moves 2 limbs on own Moves 0 limbs on own	2 1 0
Discharge Criteria from One to One Monitoring: The score for **Respirations** must be **2.** The score for **O_2 saturation** must be **1 or greater.** The **TOTAL score** for criteria 1-5 must be **8 or greater.**		

Aldrete, A. (1998). *Journal of PeriAnesthesia Nursing*. 13(3), 148-155
https://doi.org/10.1016/S1089-9472(98)80044-0

Appendix B: VGH Minimum Length of Stay

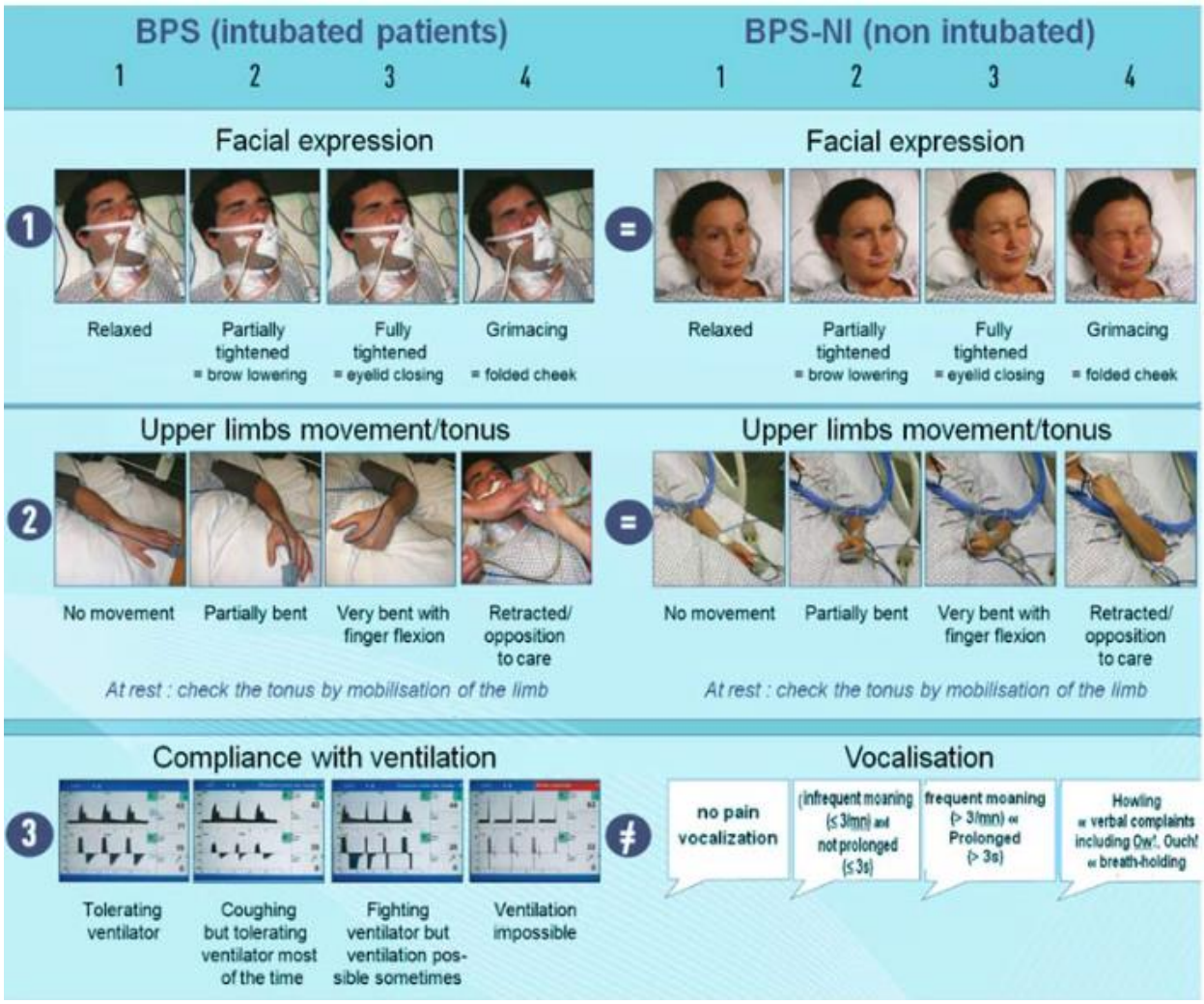
	SURGICAL PROCEDURE	MINIMUM LENGTH OF STAY
SPINE/NEURO	**BACLOFEN PUMP**	• **3 HOURS** if going to SPINE SD/NICU • **8 HOURS** of continuous monitoring required **Exception:** Patient has NOT had a General Anesthetic and is determined **low risk** by provider
VASC	**CAROTID ENDARTECTOMY (Vascular)**	**4 HOURS**
	EVAR (Endovascular Aortic Resection)	**2 HOURS**
	AAA, AORTOBIFEM	**OVERNIGHT**
THORACICS	**VATS LOBECTOMY**	**4 HOURS**
	THORACOTOMY (for any reason)	**4 HOURS**
	THYMECTOMY (for Myasthenia Gravis)	**4 HOURS**
	PNEUMONECTOMY	**OVERNIGHT**
	ESOPHAGECTOMY	**OVERNIGHT**
GI	**CYTOREDUCTIVE HIPEC SURGERY**	**6 HOURS**
ENT/OTL	**MAJOR HEAD and NECK SURGERY** **Exception:** Tracheostomies and Laryngectomies with no neck dissection or flap	**4 HOURS**
	ROBOTIC TRANS ORAL ENT SURGERY	**4 HOURS**
TRANSPLANT	**RENAL TRANSPLANT**	**4 HOURS** Length of stay is a collaborative decision between Transplant, Anesthesiologist and RN
	PANCREAS TRANSPLANT	**5 HOURS** Length of stay is a collaborative decision between Transplant, Anesthesiologist and RN

Appendix C: PASERO Opioid-Induced Sedation Scale (POSS)

PASERO Opioid-Induced Sedation Scale (POSS)	
SCORE	**DEFINITION**
S	**Sleep, easy to rouse** ***Acceptable; no action necessary; may increase opioid dose if needed***
1	**Awake and alert** ***Acceptable; no action necessary; may increase opioid dose if needed***
2	**Slightly drowsy, easily roused** ***Acceptable; no action necessary; may increase opioid dose if needed***
3	**Frequently drowsy but rousable, drifts off to sleep during conversation** ***Unacceptable; monitor respiratory status and sedation level closely until sedation level is stable at less than 3 and respiratory status is satisfactory; decrease opioid dose 25% - 50% or notify Anesthesia provider for orders; consider administering a non-sedating medication such as Acetaminophen or an NSAID, if not contraindicated; encourage patient to take deep breaths***
4	**Somnolent, minimal or no response to verbal and physical stimulation (use trapezius muscle squeeze for physical stimulation – DO NOT use sternal rub)** ***Unacceptable; stop opioid; consider administering Naloxone, support respiratory function, call Code Blue if indicated, notify Anesthesia provider; monitor respiratory status and sedation level until sedation is less than 3 and respiratory status satisfactory***

Pasero, C. (2009). Assessment of sedation during opioid administration for pain management. *Journal of PeriAnesthesia Nursing, 24*(3), 186-190. https://doi.org/10.1016/j.jopan.2009.03.005

Appendix D: Behavioral Pain Scale



1 + 2 + 3 = Total BPS value

From 3 (no) to 12 (maximum) pain behavior rated used the BPS

Pain Assessment in Critical Illness - HealthManagement.org

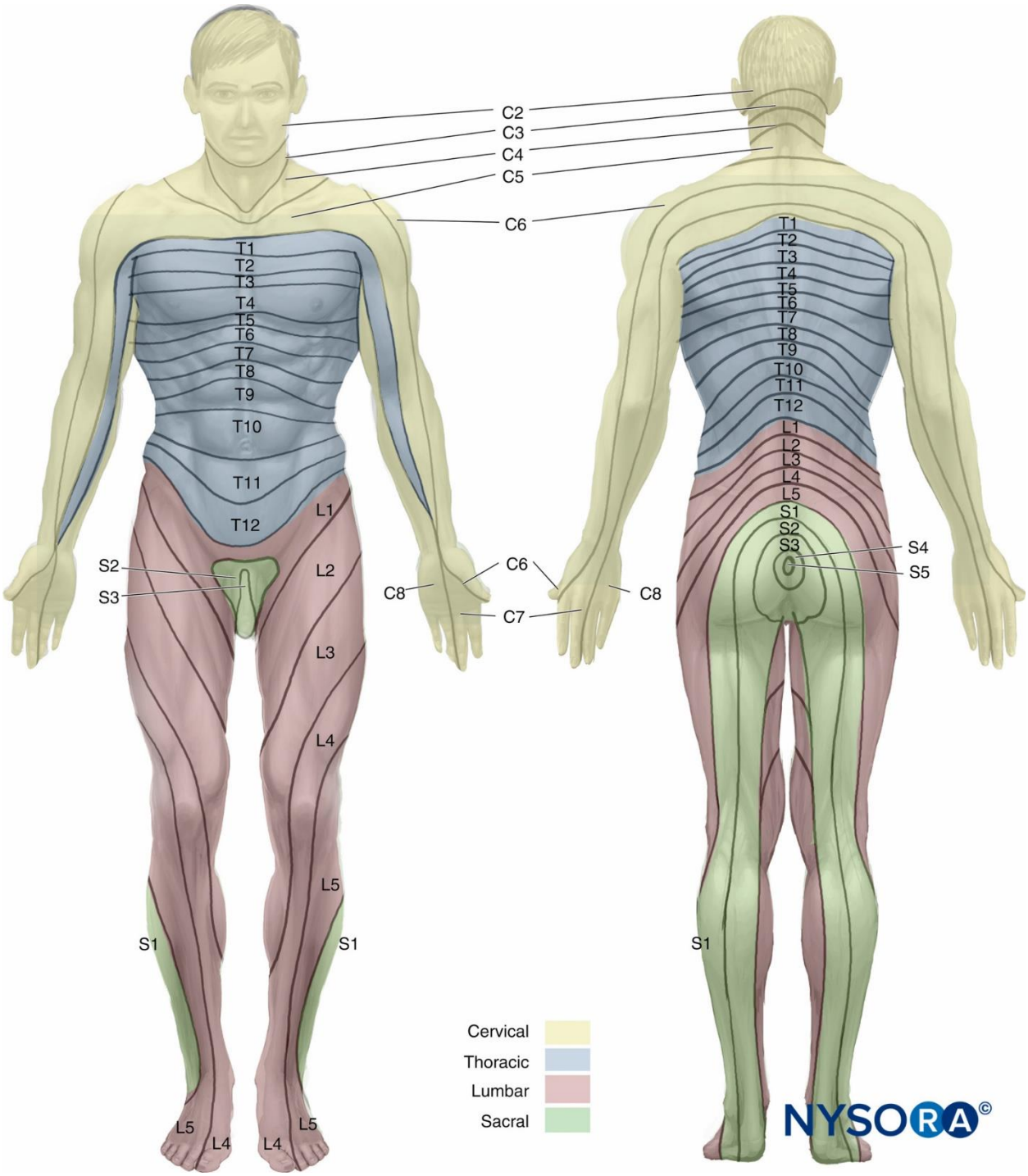
Chanques, G (2022). Pain Assessment in Critical Illness. *ICU Management & Practice,* 22(3)

Appendix E: Local Anesthetic Systemic Toxicity (LAST) (DST being developed, to be linked once posted)

Local Anesthetic Toxicity	Assess for possible systemic side effects related to the local anesthetic	Intervention
	Mild: • Perioral numbness or tingling • Oral metallic taste • Ringing in the ears • Lightheaded or dizziness • Visual disturbances • Confusion Moderate: • Nausea or vomiting • Severe dizziness • Decreased hearing • Tremors • Changes in heart rate and Blood Pressure • Confusion Severe: • Drowsiness • Confusion • Muscle Twitching • Convulsions • Loss of consciousness • Cardiac Arrhythmias • Cardiac Arrest	Stop Infusion and call Anesthesia ACLS support and Intralipid infusion

Nerve Blocks (Perineural, Fascial Plane, or Paravertebral): Care and Management

Appendix F: Dermatomes



Spinal Anesthesia - NYSORA | NYSORA

Appendix G: Bromage Scale

Upper Extremity

Score	Motor Assessment
0	No Residual Motor Block; able to flex and extend elbow, good hand grip
1	Partial Block Remains; minor weakness in elbow, flexion/extension and/or hand grip
2	Almost Complete Block; no elbow flexion/extension and weak hand grip
3	Complete Motor Block; no flexion

Lower Extremity

Score	Motor Assessment
0	No Residual Motor Block; free movement of legs & feet, can straight leg raise against gravity
1	Partial Block Remains; just able to flex knees with free movement of feet
2	Almost Complete Block; only able to move feet; unable to flex knees
3	Complete Motor Block; unable to move legs or feet

Bromage, P. (1978) Spinal, P.144. Philadelphia, Pennsylvania: Saunders

Appendix H: Medication Administration and Discharge

DRUG ROUTE	DISCHARGE
Oral Medications PO	**No Minimum stay**
Intramuscular IM	**30 Minutes from time of injection**
Subcutaneous SC	**30 Minutes from time of injection**
Transdermal (i.e. NTG patch, Fentanyl patch)	**Patient has previously received the medication Transdermal** ➢ 30 minutes from time of application **1st time application of transdermal medication** ➢ 60 minutes from time of application
Intravenous IV	**IV infusion or IV Bolus** 1st time administration of medication: ➢ 30 Minutes from time of injection or infusion start Patient has previously received the medication: ➢ 15 minutes from the time of injection or infusion start unless accompanied by RN
Vasoactive/Antiarrhythmic infusion or bolus	60 minutes from time of discontinuation of infusion or bolus dose
Ketamine Infusion	60 Minutes from time of initiation
Lidocaine Infusion	60 Minutes from time of initiation; or discontinuation
Patient Controlled Analgesia PCA	No wait following initiation
Epidural	**Routine Administration** ➢ **Bolus:** 30 minutes from time of injection. Exception RH 60 minutes ➢ **Infusion:** 30 minutes from time of infusion initiated ➢ **Rate Change:** 30 minutes **If** at 30 minutes sensory, motor assessment, hemodynamics and respiratory stable **Accidental Intrathecal or Epidural bolus Overdose** ➢ **VGH**: Observe in PACU minimum 18 hours. **Rural Sites and RH**: Monitoring for 18 hours in PACU/Critical Care/HAU

NERVE BLOCK (PERINEURAL, FASCIAL PLANE OR PARAVERTEBRAL)	**Route Administration** ➢ **Bolus:** 30 minutes from time of injection Exception: No wait following infusions with Programmed Intermittent Boluses (PIB) ➢ **Infusion:** no wait following infusion initiation
NALOXONE	Observe in PACU minimum 2 hours (Exception: Naloxone administered for pruritus)
FLUMAZENIL	Observe in PACU minimum 2 hours

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	VCH: (Regional DST Endorsement - 2nd Reading) Health Authority & Area Specific Interprofessional Advisory Council Chairs (HA/AIAC) Operations Directors Professional Practice Directors Final Sign Off: Vice President, Professional Practice & Chief Clinical Information Officer, VCH
Owners:	VCH
	PACU Nurse Clinician, Vancouver General Hospital (VGH) Nurse Clinician PACU, VGH