Surgical High Acuity Unit Admission or PACU Overnight Stay

Site Applicability

SPH Post Anesthetic Care Unit (PACU)/ Surgical High Acuity Unit (SHAU)

Practice Level

Specialized: Critically care educated registered nurses

Need to Know

This document is for the direction of care for patients requiring an overnight stay in the Post-Anesthetic Care Unit (PACU) or admission to the Surgical High Acuity Unit (SHAU), depending on the level of care required (see Appendix A).

The most responsible physician for the patients in the PACU/SHAU is the perioperative anesthesia or night anesthesiologist.

The perioperative anesthesiologist requires consultation from another staff physician prior to admitting a patient into the SHAU and prior to admitting a patient into the PACU.

A consult and reassessment by the perioperative anesthesiologist is required for patients who are recently discharged from SHAU (24 hours or less) and requiring clinical determination.

There are two instances where an ICU physician may take responsibility over patients physically in the PACU/SHAU:

1. A PACU/SHAU patient is waiting transfer to ICU: A PACU/SHAU patient is accepted into ICU, admission orders are written, but a physical space in ICU is unavailable.
2. An ICU overflow patient: ICU is overcapacity and a monitored bed is required for a ventilated patient in the PACU.

For ICU overflow patients admitted to SHAU, please refer to the Surgical High Acuity Admission Criteria

Protocol

Assessment and Interventions

Nursing Assessment and Monitoring:

<table>
<tr><th></th><th><u>PACU</u></th><th><u>SHAU</u></th></tr>
<tr><td>Complete bedside safety check</td><td colspan="2">• See Appendix B for the mandatory bedside safety procedure</td></tr>
<tr><td rowspan="4">Attach patient to monitor, perform and document vital signs</td><td>• Q15 minutes x 8
• Q30 minutes x 4
• Q1 hourly and PRN</td><td>• Q 15minutes x 8, if direct admit from OR
• Q30 min x 4
• Q1 hourly and PRN</td></tr>
<tr><td colspan="2">• <u>or</u> as directed in specific PowerPlan orders
E.g. Post Anesthesia and Surgical High Acuity Unit Orders
E.g. Acute Ischemic Limb Orders</td></tr>
<tr><td colspan="2">• Record vital signs on the electronic health record (EHR) Cerner PowerChart</td></tr>
<tr><td colspan="2">• <u>For ICU overflow patients</u>: Nurses must record vital signs and initial assessment findings in the patient’s EHR</td></tr>
<tr><td rowspan="2">Receive face-to-face report</td><td>• From the O.R nurse and anesthesiologist
• From sending unit</td><td>• From sending unit or Registered Nurse</td></tr>
<tr><td colspan="2">• See Appendix C for handover guidelines</td></tr>
<tr><td>Manage invasive lines</td><td colspan="2">Arterial Lines
• Must be transduced
• If waveform cannot be obtained or is dampened despite trouble-shooting, discuss arterial line removal with anesthesiologist
• DO NOT disconnect from monitor and leave art line in place
• Level and zero transducer on admission or start of shift and re-level with position changes to the phlebostatic axis
• Maintain system with a pressurized bag of normal saline 500 mL at 300 mmHg
• Observe and record systolic, diastolic and mean arterial pressure and compare against non-invasive reading
(If results are within 10% follow arterial line pressure)
• Ensure dressing is dry, intact and free of swelling</td></tr>
</table>

	Central Venous Catheters: • If inserted in the operating room, chest x-ray is required on admission to confirm line placement • An anesthesiologist is responsible for reading x-ray • Once x-ray is read, communicate line placement confirmed and okay to use in the prescribers orders • All central lines require suturing to stabilize the device and are often sutured at the insertion site • A Cordis/sheath introducer is a large bore catheter (9 Fr) and requires continuous infusion on the side arm and is not to be capped off • **A Cordis/sheath introducer is only meant for use within critical care and SHAU** and must be discontinued by physician prior to transfer to the ward • All newly inserted central lines require a dressing change 24 hours post insertion, every 7 to 8 days and PRN.
Rhythm strips, ST analysis, and "admission"	• Print rhythm strips off Phillips monitor • Print ST analysis from central monitor • Refer to DST's Cardiac Monitoring and ST Segment Monitoring
Perform and document head-to-toe physical assessment	• Review Post Anesthesia and Surgical High Acuity Unit Orders for frequency of assessments • If clinical situation changes, frequency of assessments will increase • Refer to Physical Assessment (Critical Care Areas) • Follow surgical orders for specific surgical monitoring instructions and frequencies (e.g. flap checks, CWMS, etc.)
	• Record initial assessment in Post Anesthetic Care Nursing Physical Assessment section in Interactive View on EHR • Subsequent assessments are documented by variances to previous documented assessments
	• For ICU overflow patients: the initial shift assessment is to be charted in the following bands in Interactive View on HER: ○ *Adult Critical Care Assessment 1* ○ *Adult Critical Care Assessment 2* All subsequent assessments would be documented as needed in the appropriate sections

Alert peri-operative anesthesiologist/night anesthesiologist of patient's arrival, concerns, etc.	• Anesthesiologist to complete Post Anesthesia and Surgical High Acuity Unit PowerPlans. • See Reportable Changes in Appendix D • Perform rounds with anesthesiologist (min once per shift) • Anesthesiologist must approve orders/suggestions received from other services (e.g. fluid bolus orders from surgical team must be approved by anesthesia prior to administration) – nurse to let suggestions from other services remain "inactive" until Anesthesia team agrees to initiate the suggested orders.
Contact ICU team, if caring for either: • A PACU/HAU patient awaiting ICU transfer or • An ICU overflow patient	• See Reportable Changes in Appendix D • Perform rounds with ICU (min once per shift) **NOTE**: • Pressing the code blue button in PACU/SHAU will not alert the ICU team • *7111* must be called for code announcement to be heard throughout hospital
Risk assessments	Complete the following on admission: • Braden Scale *as part of the admission process, within 8 hours of admission* • ICDSC Delirium Screening • Morse Fall Risk Assessment
	For ICU overflow patients: • Perform assessments as per ICU Protocols, refer to PACU/SHAU Beside Resource Binder or Physical Assessment (Critical Care Areas) for assessment guidelines
Order processing	Initiate and review all orders in PowerChart and review MAR.
Discharge	• Obtain clearance by MRP and Perioperative Anesthesia prior patient transfer to ward.

Documentation

1. Systems Assessment on Interactive View and I & O on Cerner PowerChart
2. Post Anesthetic Care Nursing Physical Assessment – Systems Assessment
3. ECG Flowsheet (Form No. PHC-IC004)
4. Medication Administration Record Scheduled Medications on Cerner
5. Medication Administration Record PRN Medications on Cerner
6. Medication Administration Record Continuous Infusions

7. Intake and Output – Fluid Balance Record
8. Pain Modalities
9. Braden Scale
10. ICDSC Delirium Screening
11. Morse Fall Risk Assessment
12. Handoff Tool – PACU/SHAU Report to Unit

Patient and Family Education

Patient education includes (but is not limited to):

- Any restrictions pertaining to specific surgeries (e.g. avoid blowing nose following sinus surgery)
- Importance of deep breathing and coughing while in bed
- Leg exercises including dorsi-flexion/plantar flexion and bending knees
- Importance of adequate pain control and reporting unrelieved pain
- Frequency of assessments and monitoring equipment connected to patient
- Diet progression or restrictions (e.g. NPO status and mouth care or advancing diet as tolerated)
- Mobility requirements and progression and the importance of mobilization to improve outcomes
- Guidelines around patient safety (e.g. only take medications provided by the hospital and do not take personal meds unless medications have been assessed by hospital pharmacy, ask for help when needing to mobilize, etc.).
- Visitation guidelines
- Provide brochure: *Patient Safety. It's everyone's responsibility*

Related Documents

1. B-00-13-10018 – PACU: Post Anesthetic Patient in Phase I; Patient Care
2. B-00-13-10017 – Physical Assessment (Critical Care Areas)
3. B-00-13-10211 – Physical Assessment - Postoperative Patients
4. B-00-13-10011 – Cardiac Monitoring
5. B-00-12-10018 – ST segment Monitoring: Initiating
6. B-00-13-10143 – Vasopressors Intravenous: Administration in the High Acuity Unit
7. B-00-13-10010 – Pain Acute Postoperative: Patient Care
8. B-00-13-10003 – Epidural Analgesia
9. B-00-13-10012 – PCA (Patient Controlled Analgesia): Patient Care
10. B-00-13-10065 – Delirium Assessment and Care (Acute Care)
11. B-00-13-10059 – Least Restraint: Care of the Patient at Risk for or Requiring Restraint (Acute and Sub-Acute Care)

References

1. American Society of PeriAnesthesia Nurses (ASPAN). (2022). *2021-2022: Perianesthesia nursing standards, practice recommendations and interpretive statements.* ASPAN: New Jersey.

2. Douglas, C., Booker, C., Fox, R., Windsor, C., Osborne, S., & Gardner, G. (2016). Nursing physical assessment for patient safety in general wards: Reaching consensus on core skills. *Journal of Clinical Nursing, 25*(13-14), 1890-1900. doi:10.1111/jocn.13201

3. Draim C. B., & Odom-Forren, J. (2009). *Perianesthesia nursing: A critical care approach.* Saunders Elsevier: Missouri.

4. National Association of PeriAnesthesia Nurses of Canada (NAPAN). (2023). *Standards for Practice* (5th ed.). Oakville, Ont: Author

5. Perry, AG, Potter, PA. Clinical Nursing Skills and Techniques 6th Edition (2006). Mosby

6. Spooner, A.J., Chaboyer, W., Corley, A., Hammond, N., & Fraser, J.F. (2013). Understanding current intensive care unit nursing handover practices. *International Journal of Nursing Practice, 19*(2), 214-220. doi:10.1111/ijn.12058

7. The Intensive Care Society. (2021). Levels of Adult Critical Care Second Edition: Consensus Statement. https://ics.ac.uk/resource/levels-of-care.html

8. The Intensive Care Society. (2009). Level of Care Critical Care for Adult Patients. Intensive Care Society Standard. United Kingdom: Author

Appendices

Appendix A – Levels of Care

Appendix B – Bedside Safety Check

Appendix C – Shift Handover

Appendix D – Reportable Conditions

Appendix A Levels of Care

Surgical High Acuity Levels of Care and *Recommended Nurse to Patient Ratio		
1	• Patients requiring more detailed observations or interventions, including basic support for a single organ system, and those discharged from a higher level of care • Patients requiring interventions which cannot be met on a normal ward • Patients requiring a greater degree of observation and monitoring that cannot be safely provided on a ward.	1:2 ** may revert to 1:1 if presenting signs of clinical deterioration*
2	• Patients needing extended post-operative care • Single organ support Example: low dose vasopressor (phenylephrine infusion of 50 mcg/min or less or norepinephrine infusion of 10 mcg/min or less) • ECG monitoring or invasive line monitoring (e.g. arterial line or CVP) • Non-invasive ventilation (BiPAP/CPAP) • FiO_2 requirement greater than 50% • Lumbar Drain for CSF leak repair • Free Flap monitoring frequency Q1H. • Fresh tracheostomy patients requiring frequent suctioning Q2H or more	1: 2 **may revert to 1 :1 if presenting signs of clinical deterioration*
2 to 3	• Post-thrombolysis requiring close monitoring and frequent assessments (For example : Neurovascular and cordis site checks Q30 mins x 6, signs of new bleeding)	1:2 or 1:1
3	• Ventilated (24 hours or less) • Monitoring and support for 2 or more organs Example: 50% FiO_2 and vasopressor (phenylephrine infusion greater than 50 mcg/min or norepinephrine infusion greater than 10 mcg/min) • Vasopressors requiring frequent titrations (more than once an hour) • Identified post-operative bleeding • Pain crisis management • Patient is a risk to self or others – For example: hyperactive delirium or ideations of self-harm	1:1
4	• Ventilated (24 hours or longer) • Patient requiring long-term multi-organ support	1:1

Adapted from NAPAN 2023 Guidelines and the Intensive Care Society
*Suggested Nurse-Patient Ratio as per NAPAN 2023 Standards of Care

Appendix B Bedside Safety Checks

The bedside safety check is performed prior to admitting a patient into a bay or upon receiving report and assuming care for a patient (e.g. after handover). The following should be included in a bedside safety check:

- Functioning oxygen attached to ambu-bag with face mask
- Functioning suction with Yaunker attached
- Oral airways 80 mm, 90 mm, 100 mm and naso-pharyngeal airways 7.5 mm, 8.0 mm and 8.5 mm (with lubricant)
- Alarm limits set to acceptable range and turned on
- Alarm volume set to a minimum of “level 5”
- Arrhythmia monitoring set to full
- At least 2 out of 4 bedside rails in up position, or both stretcher rails in up position
- Emergency equipment set-up as appropriate (e.g. tracheostomy emergency equipment, chest tube emergency equipment, suture scissors, wire cutters, etc.)
- IV bag and tubing dated and current
- Infusions correct, dose/rate/concentration programmed correctly
- Gloves
- Alcohol wipes
- Emesis basins

Appendix C Shift Handover

Report is given and documented in the EHR using the Handoff Tool at the patient's bedside with the oncoming and outgoing RN and should include the following:

- Environmental Hazards (isolation, restraint use, violence)
- Code Status
- Allergies
- Patients' medical history, current reason for admission, and surgical procedure
- Indication for ongoing PACU/SHAU stay
- System review:
    1. CNS – Pupils, GCS, RASS/sedation scale, pain, pain management, dermatomes, delirium, ability to move extremities
    2. CVS – Rhythm, BP/MAP, MAP goal, inotropes, CVP, heart sounds, temp, pulses, CWMS, cap refill
    3. Resp –Ventilator settings. O_2 requirement, mode of delivery (NP/FM), breath sounds, breathing pattern, RR, apnea, $ETCO_2$, O_2 sat, cough, X-ray results, chest tubes
    4. GI – Diet, abdominal size/tenderness, nausea and vomiting (N&V), bowel sounds, flatus, NG (position, input, and output), diet, oral intake, blood sugars, stoma (characteristics, appliance, and drainage), drains
    5. GU – Urine output (volume, colour), urostomy (characteristics, rod/stent/ appliance, output), urine output replacements, catheter presence & review continuation need
    6. Skin – Surgical dressings, skin breakdown, repositioning, edema, integrity
    7. Equipment – Central venous lines, PA catheter, arterial line, peripheral lines, HD lines, etc.
    8. Lab Values – last hemoglobin, renal profile etc., pending blood work
- Specific assessments, tasks, etc. that require completion
- Mobilization needs
- Family presence and any concerns
- Any observations/concerns that require relaying to anesthesia/surgery
- Review prescribers orders for the last 12 hours
- Review of current MAR
- Visually inspect all infusions for correct medication, concentration, and rate/dose.
  **Please note which medications require independent double checks (IDC) versus double checks.
  See High-Alert Medication Policy and Independent Double Check and Double Check of Medication

Appendix D Reportable Conditions

1. As directed by anesthesiologist/surgeon
    a. See Post Anesthesia and Surgical High Acuity Unit Orders for specific instructions (e.g. MAP goals)
2. Unexpected changes in level of consciousness
3. Temperature less than 36 degrees Celsius or greater than 38 degrees Celsius despite all interventions
4. HR consistently greater than 100 or less than 50 or per parameters ordered by anesthesia
5. New Arrhythmia or ST/rhythm changes
6. BP +/- 20 % from baseline
7. O_2 sats less than 92% and/or increasing FiO_2 requirements with no resolution after O_2 administration
8. Respirations less than 8 or greater than 24; or periods of apnea
9. Saturated dressings
10. Urine Output less than 0.5 mL/kg/hour for 2 hours
11. Any complications/unstable condition (e.g. changes in lab values – drop in hemoglobin, increasing creatinine, etc.)
12. Intractable nausea/vomiting
13. Intractable pain

Persons/Groups Consulted

Clinical Nurse Specialist, Critical Care – PHC

Nurse Educator, ICU, SPH

Clinical Nurse Leader PACU/SHAU, SPH

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