Avoid PCU Bottlenecks With Proper Admission and Discharge Criteria

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Progressive care units (PCUs) optimally provide care for patients with lower to middle levels of resiliency, vulnerability, stability, complexity, resource availability, care participation, decision making ability, and predictability. PCU names vary according to the patient acuities they encompass. Typically, a PCU name describes its predominant patient population, such as cardiopulmonary care unit or neurological step-down unit.

In larger facilities, these units can be structured to care for specific patient populations, or the unit is more generic and encompasses many diagnoses and patient populations. Often, caregivers must prepare for overflow from one PCU to another. As the patient population diversifies, nurse managers must clearly define appropriate care protocols for each PCU.

Objective Parameter Model: PCU admission and discharge criteria

Here’s one example of an Objective Parameter Model. Keep in mind that this particular model is dated and under review.

Admission
Patients admitted to the PCU must be at least 13 years old and demonstrate any of the following:
- hemodynamic instability (includes potentially malignant dysrhythmias, extreme variations in blood pressure or pulse, or patients with arterial lines or venous sheaths)
- respiratory instability (includes respiratory distress up to and including need for mechanical ventilation)
- use of IV cardiac drips except tissue plasminogen activator (TPA), streptokinase, epinephrine, or norepinephrine
- serum potassium less than 2.5 mEq/L or greater than 6.0 mEq/L
- prolonged chest discomfort or abnormal results on an electrocardiogram (ECG)
- loss of sight, hearing, speech or peripheral nerve injury, or altered level of consciousness
- any other situation that requires more intense monitoring, such as signs of hemorrhage and/or decreased hematocrit, toxic levels of chemical substances that require cardiac monitoring, patients who present a physical danger to themselves, and trauma patients who need monitoring because of mechanism of injury.

Discharge
Patient transfer from the PCU—a medical decision—requires a primary care provider order. Candidates for discharge/transfer should meet the following criteria:
- stable vital signs and stable cardiac rhythm
- stable arterial blood gas levels (PO₂ >60 on room air or supplemental O₂)
- significant functional improvement of severe airway obstruction
- no special IV infusions
- no potentially malignant dysrhythmias or symptoms
- normal serum potassium level without dysrhythmias or symptoms
- no signs of hemorrhage in 24 hours and/or Hgb >9.0 and Hct >26%
- no evidence of cardiac damage after 3 days on telemetry
- no evidence of chest pain or changes in ECG results in the last 24 hours

PCU Positives
In addition to freeing up precious ICU beds, PCUs have many positive implications. Nurses in PCUs report increased job satisfaction because they’re developing new skills. Patients and families are comforted as they perceive signs of the patient’s progress and enjoy more open visitation. Primary care providers (PCPs) appreciate the continuous monitoring of their patients. And hospital administrators support a two-tiered, critical care approach because it lowers costs and employs less-invasive technology. PCUs have a lower, less expensive caregiver-to-patient ratio than...
ICUs, commonly 1:3 or 1:4, compared to 1:2. As described in Part 2 of this 6-part series exclusively endorsed by the American Association of Critical-Care Nurses (AACN), general care units can’t provide the continuous monitoring, frequent assessment, and specific acute and skilled care that progressive care patients need.

Patients on PCUs are best described as “stable, critically and acutely ill.” Critical care outcomes have shown that many patients are either too sick or not sick enough to benefit from the care level provided in the ICU. Discharging patients from the ICU to the PCU instead of to a general floor may lower mortality rates because patients receive the appropriate care level for their acuity.7 Reportedly, post-ICU mortality is as high as 23% to 31%.7

Model Adult PCUs

In 1999, the Society of Critical Care Medicine (SCCM) offered three models to help hospitals develop admission and discharge criteria for critical care. (The SCCM guidelines

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Once you define the PCU patient population, it’s essential to assess the staff’s education needs and provide training for the unit. Consider the Synergy Model, which assigns nurses to patients based on the patient’s and family’s needs as well as the nurse’s competencies.

A PCU’s administrative team should include a medical director. The director’s role includes ensuring quality, safety, and appropriateness of care in the PCU.1

The PCU nurse manager should be a registered nurse with a baccalaureate degree and at least 3 years experience working in an ICU. In major teaching institutions a graduate degree is recommended, and the manager should have at least 5 years of critical care experience. In addition to sharing responsibilities for quality issues with the medical director, the nurse manager also assesses and provides for the educational needs and training of the PCU nursing staff.2

Nurse Competencies

Nurse managers typically assess the learning needs of the PCU team. When you base learning opportunities on the staff’s needs and the unit’s defined patient population, you’re more likely to achieve changes in practice. Caregiver’s skills and education for the PCU include, but aren’t limited to, the following:

1. tracheostomy care, airways, and oxygen delivery systems
2. vascular assessment and Doppler basics
3. 12-lead ECG interpretation
4. defibrillation/cardioversion
5. troubleshooting chest tubes.

Not every PCU in the city cares for heart surgery patients or ventilator patients. So, instruction on cardiac surgery and care of patients undergoing mechanical ventilation are presented on the fifth day, which is optional for nurses.

The AACN local chapter steering committee strives to recruit speakers with expertise in each content area. The multidisciplinary faculty is approximately 50% nurses (including clinical nurse specialists). The committee recruits other lecturers for their expertise, such as respiratory therapists, pharmacists, a representative from a local pacemaker company, and a dietician.

Nursing community meets progressive care education needs

The Kansas City, Mo, nursing community created a consortium forum to meet the education needs of progressive care nurses through the I-Care Course.8

Organized and overseen by the American Association of Critical-Care Nurses (AACN), unit managers of participating hospitals define the number of participants from their location to enroll in the course. In exchange, they supply resources such as classroom space, audiovisual equipment, speakers, onsite coordinators, etc.

The 5-day course runs three times per year. The consortium committee, composed of representatives from each hospital, meets after each course to evaluate the input from course participants and make appropriate changes.

The curriculum is systems-based, centered on the needs of PCU patients as identified by the consortium leaders, unit managers, and educators. Lecture topics include cardiovascular, respiratory, neurology, endocrine, gastrointestinal, and renal conditions and care. Instruction also covers nutrition, complex wound care, and PCU medications.

With the addition of a “hands-on” lab, participants can demonstrate skills in five care stations:

• safely maintain, troubleshoot, and document temporary pacemakers (includes understanding implications of an automatic internal cardioverter defibrillator device)
• safely maintain, troubleshoot, document, and discontinue mechanical ventilation.
• accurately interpret lab data.
• recognize PCU-approved medications, calculate dosages, and interpret patient response.

Prerequisite: basic dysrhythmia course
use the term intermediate care, but for consistency the term progressive care appears throughout this series.) The three models are:
- Diagnosis Model
- Objective Parameter Model
- Prioritization Model

Administrators, nurses, and PCPs can use these models to develop admission and discharge criteria for PCUs. A multidisciplinary team approach that includes nurses, PCPs, and hospital administrators is ideal. In turn, nurses and medical directors may enforce the established criteria.

The discharge criteria from any unit should be similar to the admitting criteria for the next care level. For example, discharge criteria from the ICU should match admission criteria to the PCU, although not all patients require progressive care after discharge from the ICU.

Diagnosis Model

In 1998, SCCM published admission and discharge criteria for progressive Model. The guidelines assert that patients must be hemodynamically stable to be admitted to the PCU.

• educate patients and their families about the disease process, interventions, procedures, medications, and care plan.
• coordinate multidisciplinary care to ensure the patient progresses to transfer and discharge.

These core competencies exemplify a set of practice expectations that define progressive care nursing. Be sure to review your unit policies for each item listed. Ask yourself, “Are we currently performing this skill according to the ‘best practice’ recommendations?” After reviewing the literature, discuss any practice differences with the staff. To encourage staff to change, present findings to them with the approach, “This is what I learned in the review.” This approach enables you to propose change objectively while providing research to reinforce the need for change. Because promoting practice changes is challenging, prepare for resistance. The nursing community in one city combined resources to meet the general education needs of its progressive care nurses. (See “Nursing community meets progressive care education needs.”)

Base nursing competencies on the scope of care and previously defined unit standards. Your protocol for evaluating competency should include the following:
- scientific knowledge
- an explanation of the technology
- awareness of any occupational hazards or safety issues
- an opportunity for demonstration or return demonstration, when appropriate.

Also evaluate critical thinking skills in the process. Use case studies to create an environment for critical thinking and incorporate technical knowledge in the practice setting. Registered nurses should meet hospital-based competencies and unit-specific competencies. (See “A ventilator competency model.”)

The progressive care staff may range in experience from new graduates to highly tenured caregivers. It’s ideal to recruit a tenured nurse or clinical nurse specialist to teach and mentor novice nurses. This nurse can also help assess the unit’s education needs and develop and present education programs. By recruiting talent within your staff, you’ll bolster morale and allow new nurse leaders to be born.

References
1. Task Force of the American College of Critical Care Medicine, Society of Critical Care Medicine, loc cit., 1998.
2. Ibid.
Patients who require more than 12 to 24 hours of nursing care per day have acuity levels that are critical and considered too high for PCU admission. Potential PCU cardiac patients include:

- low-probability myocardial infarction (MI)
- hemodynamically stable MI
- dysrhythmia or pacemaker (permanent or temporary)
- mild to moderate heart failure (Killip Class I or II)
- hypertensive urgency with no evidence of end organ damage.

According to the SCCM, pulmonary patients who are appropriate PCU candidates:

- are stable or on mechanical ventilation in need of chronic care or weaning
- have bilevel-positive airway pressure (BIPAP) or aggressive chest physiotherapy requiring frequent observation. You should move recently intubated patients or those at imminent risk of requiring intubation to the ICU.

Many patients with neurologic diagnoses fall under PCU admission criteria. In general, such patients require ongoing neurological checks or more frequent treatments than a medical/surgical unit offers. Patients with stable cerebral vascular accident and those with neuromuscular disorders who require frequent repositioning or suctioning can receive care in the PCU. Also permissible for PCU admission include neurotrauma patients, such as those with head injury (Glasgow coma scale rating >9) and frequent assessment needs, and those with spinal cord injuries who need frequent nursing intervention.

Some neurosurgery patients who require observation for vasospasm or hydrocephalus can be admitted to the PCU. Stable patients awaiting neurosurgical intervention may be more closely observed in the PCU before surgery, for example: patients with Grade I or II subarachnoid hemorrhage or those who await V-P shunt. Patients undergoing intracranial pressure monitoring and those with status epilepticus, however, must receive care in the ICU.

Patients who require frequent neurologic, cardiac, or respiratory monitoring following drug ingestion qualify for PCU admission. Those with gastrointestinal (GI) disorders, such as GI or variceal hemorrhage or acute liver failure, are also appropriate.

Various endocrine diagnoses typify PCU patients, including diabetic patients receiving insulin drips or needing frequent injections during recovery from diabetic ketoacidosis or hyperglycemic hyperosmolar nonketotic acidosis, and those in severe hypothyroid states who require frequent monitoring.

Other post-operative patients who require frequent nursing assessment in the first 24 hours are appropriate PCU admissions, such as those recovering from kidney transplantation, carotid endarterectomy, and peripheral vascular reconstruction.

According to SCCM guidelines, PCU beds are for patients expected to live. Patients receiving comfort measures only or those with catastrophic brain illness or injury who are “DNR” and not candidates for organ donation might not benefit from PCU care.12 Your health care administrators can address the remaining moral and economic care considerations for the terminally ill in line with the facility’s mission and values.

Progressive care patients can be discharged to the medical/surgical area when they no longer require intensive monitoring. If a patient requires or will likely require active life support, he should be transferred to the ICU.13

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**Priority 1: Admission to the PCU**
In this group patients may require:
- vital signs monitoring every 1 to 2 hours or frequent monitoring of vital signs temporarily after a procedure
- IV infusions of inotropic, chronotropic, or vasoactive drugs
- monitoring of arterial catheters
- arterial sheaths S/P percutaneous coronary intervention
- long-term mechanical ventilation
- frequent nursing treatments

**Priority 2: Admission to a cardiac telemetry unit**
In this group patients may require:
- vital signs monitoring every 2 to 4 hours
- streptokinase for peripheral antithrombolytic therapy
- I.V. antidysrhythmic drugs
- temporary or permanent pacemakers
- recovery from open-heart surgery

**Priority 3: Admission to a unit with remote telemetry**
In this group patients don’t require I.V. antidysrhythmic agents and exhibit a:
- primary diagnosis of a medical, surgical, or orthopedic problem that requires ECG monitoring
- history of cardiac arrhythmia not requiring immediate drug intervention in the last 24 hours
- differential diagnosis of MI that has been ruled out.
Objective Parameter Model

In December 1992, a midwestern hospital developed PCU admission and discharge standards to meet its needs based on the objective outlined in the *Comprehensive Accreditation Manual for Hospitals: The Official Handbook*. Subsequently revised, the facility is evaluating its standards against the SCCM’s guidelines. The philosophy of admitting hemodynamically unstable patients to the PCU is under review. (See “Objective Parameter Model: PCU admission and discharge criteria.”)

Prioritization Model

The Prioritization Model categorizes patients according to three priority levels for monitoring with Priority 1 patients needing the most monitoring. For example, a Priority 1 patient receives vital signs monitoring every 1 to 2 hours or temporary frequent monitoring of vital signs after a procedure, and is first to be assigned to the PCU. Priority 2 patients receive vital signs monitoring every 2 to 4 hours and may receive care in a cardiac telemetry unit, not the PCU. Priority 3 patients have the lowest care needs and least potentially critical conditions, so they may receive care on units with remote telemetry.14 (See “Prioritization Model: PCU admission criteria.”)

Bedside nurses can offer a unique perspective on the type and amount of nursing care each patient needs.15 Discharge from a critical care area is typically a medical decision; however, more nursing input related to discharge may result in better patient outcomes.

References
10. Task Force of the American College of Critical Care Medicine, Society of Critical Care Medicine, loc cit., 1999.
12. Ibid.
13. Ibid.
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