Staff Developed PACU Acuity Scoring Grid

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Purpose: *The goal of this project was to design a tool to classify patients in the postanesthesia care unit (PACU) for acuity as defined by nursing interventions.*
Design: *An instrument development and validation approach was used.*
Methods: *A PACU acuity scoring grid was developed using the American Society of PeriAnesthesia Nurses (ASPAN) professional guidelines and Rothman Index concepts to help classify patients by acuity and determine PACU acuity class. The appropriate ASPAN nurse-patient ratio was assigned to the classification. PACU staff were educated on use of the PACU acuity scoring grid. Staff piloted the grid on patients in PACU and then refined the grid. Validity and reliability of the grid were also evaluated.*
Findings: *Data evaluation showed that 54% of patients fell into classification II, with a ratio of one nurse to two patients. Classification III is the second highest category with 38%, with a ratio of one nurse to one patient. The tool demonstrated validity and the Cronbach alpha measure of reliability for the PACU acuity scoring grid was 0.695 on 73 of the 92 variables on the grid.*
Conclusions: *The PACU acuity scoring grid is a tool that can be used to identify patient acuity by assigning acuity points to nursing interventions in five categories. The acuity points can be used to assign a patient to a PACU class, which can then converted to a nurse-patient ratio to allow for the provision of safe and efficient nursing care.*

Keywords: *acuity, staffing standards, classification, scoring, nurse-patient ratio.*

POSTANESTHESIA CARE UNIT (PACU) acuity is an important consideration for staffing[1] and for identifying factors contributing to a patient's length of stay.[2] It is important for PACU staff to recognize the significance of, and the challenges in differentiation between a low-acuity patient vs a high-acuity patient. Acuity has implications for staffing and understanding patient volumes. We have found the development and monthly use of a PACU acuity scoring grid tool to be of immense support when addressing staffing variances. It has been instrumental in providing constructive explanations for monthly salary variances.

The intent for development of our acuity tool was twofold, the first intent being to identify an opportunity to clarify or justify staffing variances. The second intent was to correlate the acuity volumes with PACU volumes. It is noted the PACU acuity scoring grid tool was not designed to be a predictor for staffing based on acuity. However, it could be considered in development of staffing plans based on correlation of high-acuity patterns identified for a specific period.

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Literature Review

Dexter et al[2] concluded that acuity data may explain salary variances and must be incorporated in the staffing plan. However, it would follow that one must first be able to accurately *measure* acuity before it can be used to help explain variance related to salaries and patient length of stay.

We found that it was important to differentiate nursing interventions related to patient care to assist in determining patient acuity. By defining acuity, patient safety concerns impacting staffing were able to be addressed. Mamaril et al[3] indicate the need for a "focus on practice safety, outcomes, and managerial fiscal implications, which is reflective of concerns in the health care environment in addressing minimum staffing requirements."

Lima and Rabelo[4] concluded that the nursing workload in the PACU is greater when patients are more severely ill, especially when a PACU patient experiences an adverse event. Nursing workload in the PACU is impacted by the type of care required to be delivered to assure safety of the patient.[4-6]

Some patients with comorbidities do not require significant nursing interventions in PACU, and therefore, medical diagnoses do not always impact acuity. Rather, it may be the patient with a simple surgical case who faces an adverse critical event. PACU staff must be flexible and ready to adjust and change course as the number of patients and clinical priorities change again and again.

The PACU setting uses risk assessments[7] to plan for patient outcomes. A higher risk can equate to higher acuity and often result in more levels of nursing interventions that are required to assure patient needs are met. To arrive at the best patient treatment plan, nurses must use their skills to address the best use of nursing resources and professional practice standards.[1,8]

Purpose

Our hospital needed an acuity scoring tool to help with explanations for monthly patient volumes related to registered nurse salary variances. Staff conducted a literature search and were unable to find any method of staff planning that used acuity scoring of PACU patients to help validate rationales for those variances.

When developing the acuity tracking grid, our staff felt that we could improve staffing plans during times of peak patient volumes. Development of the tool also helps explain variances in staffing related to patient volumes.

Problem

As PACU nurses, we realized most hospitals justify staffing based on patient volumes. Our hospital bases productivity or salary variances on patient volumes in PACU. The PACU delivers highly specialized care with use of a wide range of skills. Patient volumes do not demonstrate the degree or level of care a patient requires during the PACU stay. The PACU environment is a complex unit requiring continuous reassessment of patient needs.

The acuity of our patients varies significantly. Our facility provides care to all ages, from pediatric to geriatric patients. Our PACU staff recovers surgical patients from all specialties, including endoscopy, general surgery, gynecological, genitourinary, neurological, orthopaedic, plastics, and vascular. The status of a PACU patient may change many times during their recovery period, creating unique challenges for managing staffing plans.

Development of the PACU Acuity Scoring Grid

PACU staff developed an acuity scoring grid based on interventions completed by the nurse. The Rothman index[9] was used in our hospital acute care units to assist in determining predictors for changes in patient conditions. The model developed for determining PACU acuity used similar measures as used to determine the Rothman Index score. We elected to use nursing interventions to monitor acuity scoring instead of actual medical diagnoses. The rationale for this decision was based on our goal to determine nursing acuity for predicting staffing patterns.

The PACU acuity scoring grid (Figure 1) was devised for simplicity and ease of completion.