



Allegheny Health Network  
Allegheny Valley Hospital – Natrona Heights, PA

# PACU Preparedness: Using Simulation to Verify Competency

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## Introduction/Problem



Increasing number of new graduate and nurse transfers with minimal exposure to post anesthesia patients and the common complications the occur.

## Purpose



Expose nurses to common complications and provide the opportunity to practice essential skills through simulation before managing critical situations in patient care assignments.

## Methods

Simulations were developed for 3 common surgical cases.

Simulation criteria Included:

- ❖ Handoff from CRNA to PACU RN
- ❖ Assessment of PACU patient
- ❖ Identifying issues
- ❖ Discharge criteria
- ❖ Disposition
- ❖ Discharge Education

## Simulation Checklist

AHN PACU Simulation Observation Checklist				
Location of Simulation	Time Simulation Started	Time Simulation Stopped	Observer Name	Date
Please place a checkmark in the appropriate column to indicate whether the items/tasks are present/complete.				
<b>PACU Simulation Checklist</b>				
Nurse Receives Handoff Report from CRNA				
Nurse Reviews PACU Orders				
Begin PACU Assessment				
<b>Airway integrity and patterns of respirations</b>				
<ul style="list-style-type: none"> <li>• Observe the respiratory rate and pattern breathing.</li> <li>• Administer oxygen on all patients who have received General Anesthesia or who are slow to respond.</li> <li>• Monitor oxygen saturations continuously.</li> <li>• Determine when to change modality i.e. from face mask to NC, also when to remove oral airway.</li> <li>• Assess breath sounds on admission, discharge and as dictated by the patient's condition.</li> <li>• Initiate measures to promote optimal ventilation.</li> </ul>				
<b>Circulation</b>				
<ul style="list-style-type: none"> <li>• Check skin, nail beds, oral mucosa for signs of pallor, cyanosis and/or diaphoresis.</li> </ul>				
<b>Cardiac Monitoring</b>				
<ul style="list-style-type: none"> <li>• Place the patient on the cardiac monitor using Lead II as the baseline.</li> <li>• Obtain and document a six (6) second EKG strip.</li> <li>• If there are deviations, notify the Anesthesiologist.</li> </ul>				
<b>Blood Pressure</b>				
<ul style="list-style-type: none"> <li>• Using a non-invasive automatic blood pressure device, monitor the patient's blood pressure.</li> <li>• If an arterial line is present, level, zero and calibrate the line and compare with the non-invasive reading.</li> </ul>				
<b>Level of Consciousness</b>				
<ul style="list-style-type: none"> <li>• Note consciousness, behavior, orientation and emotional status.</li> <li>• Be aware of the anesthetic agents used including local anesthetics that may alter the patient's behavior.</li> <li>• It is the responsibility of the PACU nurse to understand the characteristics of each group of agents.</li> <li>• Reassure and reorient the patient as necessary.</li> </ul>				
<b>Pain and comfort level</b>				
<ul style="list-style-type: none"> <li>• Nausea and vomiting controlled, if not decide on appropriate medication.</li> </ul>				

AHN PACU Simulation Observation Checklist				
Location of Simulation	Time Simulation Started	Time Simulation Stopped	Observer Name	Date
<ul style="list-style-type: none"> <li>• Pain scales</li> <li>• Assess for inadequate analgesia, document a pain level and need for different medications</li> <li>• After receiving pain medication, observe patient for effectiveness.</li> </ul>				
<b>Temperature</b>				
<ul style="list-style-type: none"> <li>• Document the patient's temperature upon admission to the PACU.</li> <li>• If normothermic, measure temperature at least hourly, at discharge, and as indicated by patient condition.</li> <li>• If oral or temporal temperature is &lt; 96.8, reassess at least every fifteen minutes until normothermic.</li> <li>• Use warm blankets or warming equipment as necessary.</li> <li>• The patient's temperature will be &gt; 96.8F prior to discharge.</li> </ul>				
<b>Surgical Site</b>				
<ul style="list-style-type: none"> <li>• Assess and document the operative site.</li> <li>• Document any dressings, packing, external drains or drainage at the site.</li> </ul>				
<b>IV Sites</b>				
<ul style="list-style-type: none"> <li>• Assess IV sites for signs of infiltration or phlebitis.</li> <li>• Ensure all IV's are on a pump on return from the OR</li> <li>• Maintain fluid therapy as ordered by the Anesthesiologist.</li> </ul>				
<b>Spinal</b>				
<ul style="list-style-type: none"> <li>• Assess spinal level every 15 minutes by documenting on the PACU record using derma tome diagram.               <ul style="list-style-type: none"> <li>o Dermatome reference points commonly used are:                   <ul style="list-style-type: none"> <li>T4 - Nipple line</li> <li>T6 - Xiphoid process</li> <li>T10 - Umbilicus</li> <li>T12 and L1 - Groin</li> </ul> </li> </ul> </li> <li>• The patient's bed should be as flat as possible to inhibit the upward spread of the anesthetic.</li> <li>• Any elevation or a rapid change in position may cause hypotension and vasodilation.</li> <li>• Reassure the patient that the loss of sensation and/or motion to the legs is temporary and as the anesthesia reverses downward, the sensation will also return.</li> <li>• Bed rest until S1 level, motion and strength has returned, and then gradually elevate head of bed.</li> <li>• Ambulation is permitted with help if full motor and sensory returned to LE.</li> </ul>				

## Results

Question Statement	Min	Max	Mode	Avg	
I felt prepared for the simulation experience		4	5	5	4.55
The simulation reflected a believable situation		4	5	5	4.9
The simulation environment and supplies were sufficiently realistic		4	5	5	4.8
The simulation allowed me to respond as if it were a real scenario		4	5	5	4.8
The simulation gave me opportunity to practice relevant skills		4	5	5	4.8
The simulation improved my clinical and/or interprofessional skills		4	5	5	4.7
The simulation accomplished its learning objectives		4	5	5	4.8
My learning was enhanced by the knowledge of the instructor		4	5	5	4.9
I received feedback that will increase the quality of care I provide		4	5	5	4.9
The debriefing after the simulation increased my understanding		4	5	5	4.8
The simulation training was a worthy investment of my time		4	5	5	4.6
I am confident that I can apply these skills in my workplace		4	5	5	4.8
I am committed to providing patients with the highest level of care		5	5	5	5

## Discussion

Fourteen staff members completed the simulations, and 11 staff members completed the simulation evaluation forms.

Additional learning gaps were noted during simulations and subsequent education is planned for topics including reversal agents, massive hemorrhage protocol, team communication, assertive communication, and knowledge of early signs of common complications

## Implications

Simulation-based learning is an educational strategy that promotes competence, meets learning goals, and enhances patient safety through an interactive process that simulates learners' real-world responsibilities.

Learners can master skills during simulation for high-risk, low-volume events that may occur infrequently and require immediate actions to prevent patient harm. Simulation should be considered as a strategy for assessing competency levels during orientation and periodically, as needed, for specific competencies.

## References

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