

Changing Culture in Interventional Areas to Promote Patient Safety

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ABSTRACT

During the past decade, physicians have begun to perform an increasing number of interventional procedures in various locations outside the traditional OR. Changes in technology and practice have generated the need for a paradigm shift about perioperative practice because these interventional areas have become perioperative centers of care in which patients undergo operative and other invasive procedures. Physicians, nursing staff members, support staff members, and administrators in these interventional areas must consider perioperative practice standards, institutional policies, state practice acts, and regulatory and accreditation requirements when creating policies and procedures. Personnel must be familiar with AORN standards and recommended practices and understand the perioperative practice guidelines related to nurse staffing in invasive procedure areas. Advanced practice nurses and other leaders must use evidence-based research as the basis for policy and procedure changes. *AORN J* 93 (March 2011) 352-357. © AORN, Inc, 2011. doi: 10.1016/j.aorn.2010.09.028

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Interventional procedures are a rapidly growing component of perioperative practice. These procedures include cardiac catheterization, radiologic interventions, and other minimally invasive procedures performed via endoscopic or percutaneous access routes. Although these procedures may be performed in an OR, increasingly they are being performed in the diagnostic radiology (Figure 1), computed tomography, magnetic resonance imaging, and ultrasonography departments; cardiac catheterization suites; procedure rooms; and hybrid ORs (Figure 2) with interventional imaging, video, and computer-assisted technology.¹

AORN standards and recommended practices² are as relevant to the safety and optimal outcomes

of patients undergoing minimally invasive procedures in interventional suites as they are to patients undergoing a cholecystectomy or thoracotomy in the OR. Preventing infection and injury, reducing patient anxiety, using safe medication practices, and providing patient education are goals that must be practiced and embraced by staff members performing these newer interventional procedures.

The perioperative clinical nurse educator for interventional areas should promote and foster a culture of patient safety by educating undergraduate nursing students, staff nurses, allied health care providers, nurse managers, and nurse administrators about the need for practice changes based on current AORN standards and evidence-based



Figure 1. Diagnostic radiology suite.

practices, and must raise awareness about the paradigm shift required to recognize this evolution in practice. The nurse educator must focus on improving clinical expertise and education and on implementing the use of evidence in daily practice to promote a culture in which nurses can become change agents to ensure quality patient care.³

PERIOPERATIVE CHANGE

Change is a constant in health care settings. In the past, a patient with a blood clot was taken to the OR where the surgeon opened the blocked vessel and removed the clot; this required hospitalization that often lasted several days. Today, that same patient most likely would undergo a percutaneous clot removal in the cardiac catheterization suite (Figure 3) and might be discharged home the same day. This change in technology and practice has required that medical and nursing professionals adapt to working in interventional suites.⁴

During the past decade, the use of interventional procedures has evolved from simple, relatively noninvasive radiology procedures to more-invasive, high-volume, high-risk, and high-acuity procedures in what have, of necessity, become perioperative care centers. Nurses and staff members in these areas now require more advanced

perioperative knowledge and expertise because of the need to perform procedures on patients with complex diagnoses, comorbidity factors, and high-level acuities in areas outside the OR.⁴ Regardless of where procedures are performed, patients should receive the same standard of care. Under the supervision of the perioperative nurse, interventional area staff members who have acquired the necessary knowledge and skills must accomplish perioperative patient care goals.¹ Interventional area managers and administrators must recognize that experience in an interventional area does not necessarily equate to perioperative competency. Staff members must be able to demonstrate competencies in each perioperative interventional procedure.⁴

Translating research into evidence-based practice is an ongoing and challenging effort. Perioperative clinical nurse educators should assume a leadership role in policy review and change, and become change agents who promote safe patient outcomes wherever interventional procedures are performed. In the interventional setting, a change agent assesses existing policies that address

Figure 2. Hybrid OR suite.



Figure 3. Cardiac catheterization laboratory.

nursing issues in clinical practice and assists administrators and their staff members in making policy changes.⁵

To promote culture change, the nurse must educate coworkers regarding the need for change. Patient safety always should be the primary goal. Administrators and staff members must collaborate to define department-specific policies and expectations. Those involved should establish a process to interpret and explain existing policies and to educate staff members about those policies. Armed with this information, staff members can feel empowered and able to take action when a colleague does not follow policy.⁶ The clinical nurse educator also must educate staff members about the importance of patient advocacy and the importance of using evidence-based practice. These guiding principles must be translated into any policy that informs professional nursing practice.⁵

EFFECTING A PARADIGM SHIFT

Nurses involved in shifting the paradigm from past nursing practices to current recommended practices in interventional areas must focus on using critical thinking skills and judgment, recognize a need for action, and facilitate policy change accommodations for the safety of patients and optimal patient outcomes. Nurses working in

invasive procedure areas should determine the current level of staff member skill, expertise, and competency by using practice standards, facility policies, state nursing practice acts, and regulatory and accrediting body criteria to guide the changes.³

The perioperative clinical nurse educator must be the champion for the integration and application of evidence-based practice into interventional area clinical practice. A commitment to achieving an evidence-based culture calls for organizational support, strong nursing leadership, and a culture in which nurses are mentored in developing skills to provide high-level care and the ability to recognize the need for and promote changes.⁷

The clinical educator can serve as a key change agent because he or she may be in a position to communicate with many practitioners in the health care system who can facilitate change, and the nurse can use the knowledge and expertise of these individuals to promote evidence-based practices.⁸ Participation in organizational infrastructure “actively places the nurse educator in the role of a change agent.”^{8(p170)} The perioperative nurse educator must promote a culture of patient safety based on current AORN standards and evidence-based practices that guide perioperative practice.¹ Policies and procedures must be clearly articulated and understood. This might mean changing policy within the interventional area.⁶

Defining the perioperative nurse educator’s role and functions within the interventional area is key to assisting staff members and administrators in understanding the level of knowledge, expertise, and competency required to safely complete an interventional procedure.³ Clinical nurse educators should develop staff competencies for interventional areas as defined by AORN.² Staff members must demonstrate and the nurse educator must document competencies in all aspects of patient care related to the interventional procedure area.

IMPLEMENTATION AND EVALUATION

To create lasting change, the nurse educator must discuss with staff members why a change is needed. This can be accomplished by discussing AORN's standards and recommended practices. The nurse educator also could conduct a learning needs assessment to determine staff members' readiness to engage in practice changes.⁷ The next step would be to define the department members' expectations about the care provided or the potential changes.⁶ The nurse educator should compare existing policies and procedures to the AORN recommended practices² and look for inconsistencies and areas that need to be updated or completely changed. The meaning of and reasons behind new policies and procedures must be clear to all staff members.

Analysis

After the current state of practice, existing policies and procedures, and the need for change are assessed, strong nursing leadership is required to effect change.⁷ To begin the process of evidence-based practice enculturation, the nurse educator must conduct an assessment to identify the type of practice changes required. He or she must perform an analysis to determine required education, policies that need to be addressed, and the financial resources necessary. Administrators must champion the practice changes. The educator must help to clearly define staff member roles.

An example of analysis would be for the nurse educator to determine what level of staffing is normally available in the interventional suite. Some facilities, because of shortages or budget constraints, have only one RN administer moderate sedation and perform circulating duties, which presents a patient safety issue. AORN's perioperative staffing guidelines describe necessary staffing during the intraoperative phase of an interventional procedure that requires sedation and recommend that one RN be dedicated to monitoring the patient and an additional RN be dedicated to administering moderate sedation.⁹ In addition

to the physician and his or her assistant, there should be a minimum of four individuals in the interventional suite for any procedure:

- one RN to circulate,
- one RN to administer sedation,
- one scrub person (eg, surgical/cardiac technologist, RN), and
- one person to control and monitor equipment.⁹

A perioperative clinical nurse educator who is attempting to alter staffing policies must discuss these recommended staffing guidelines with interventional managers and administrators.

Curriculum

The clinical educator should develop a curriculum for an inservice program to orient staff members to proposed changes and to define competencies that staff members must demonstrate. Administrators could work with the educator to identify which staff members would be required to attend this inservice program. The educational curriculum and its competencies should be measurable so that their effectiveness can be evaluated. The nurse educator should administer a pretest and posttest to measure changes in staff members' knowledge base and the need for additional education.⁷ Preceptors also are crucial to the successful assimilation of new roles. The clinical nurse educator must clearly educate preceptors about goals and objectives.³ Preceptors should be readily available for staff member consultation and support.

Budget

A budget must include the educator's time to prepare a curriculum and evaluation tools, time to teach additional nurse educators to perform inservice programs, and expenses for educational resource material. The educator's time might include several weeks of salary. Additional nurse educators might teach several inservice sessions, with costs that would include an hourly wage. The budget also must include the staff members' salary expenses to attend these programs. In

addition to expenses for wages, there is a cost for supplies that must be used for demonstration purposes so that staff members can learn, assimilate, and reflect on the recommended practice changes.

ONE HOSPITAL'S EXPERIENCE

At a South Florida hospital system composed of five hospitals, administrators declared interventions performed in the cardiac catheterization laboratory, interventional radiology, magnetic resonance imaging, ultrasound, nuclear medicine, and the woman's breast center to be "sterile" rather than "clean" procedures. This was an important declaration because it meant that current practice policies had to change. The nurse educator performed an assessment to identify which policies had to change and the education necessary to implement these practice changes. She provided education about the AORN standards and recommended practices in interventional care areas and used these practice guidelines as a foundational base for the program she developed to educate the 530 staff members in these departments.

Staff members working in interventional areas, such as the cardiac catheterization laboratory and interventional radiology department, and all RNs

practicing in those areas attended a two-day (ie, 16-hour) inservice program. On the first day of class, the educator explained the need for change. This was done by discussing the AORN's standards with regard to invasive procedure areas, which is present in the introduction to all of the recommended practices² and by defining sterile versus clean practices.

Staff members quickly recognized the significance and importance of the practice changes after the educator had established the definition of sterile practices and clearly communicated and demonstrated the principles of asepsis. Day two

consisted of hands-on demonstrations of aseptic and sterile technique, and required return demonstrations from staff members with skills assessments and documentation of competency. Staff members took a pretest and a posttest to document changes in their knowledge base. The educator divided the test items into subgroups to specifically measure knowledge base changes in areas such as

- maintaining sterility,
- proper attire,
- patient safety,
- proper patient positioning,
- performing counts,
- gowning and gloving, and
- skin preparation.

The posttests revealed a 52% overall improvement in the participants' knowledge base. At the conclusion of the second day, staff members completed a course evaluation along with personal reflections and comments about the class. The responses were positive and enlightening. Many participants re-

lected on the immediate practice changes they planned to make. After all staff members and managers completed the training, hospital administrators reviewed hos-

pital policies to assess the required policy changes. They changed some policies and implemented others, and established a process to educate all newly hired employees about the standards and recommended practices.

Staff members working in magnetic resonance imaging, the woman's breast center, ultrasound, and nuclear medicine areas attended a one-day (ie, 8-hour) inservice program. In these invasive procedure areas, scrub sinks are not available and the sterile setup usually included opening a sterile kit, gown, and gloves. The nurse educator taught staff members about proper sterile attire and how

The nurse educator taught staff members in invasive procedure areas about proper sterile attire and how to maintain a sterile environment.

to maintain a sterile environment. She also taught surgical hand scrubbing by using a brushless, waterless, hand-scrub solution. The one-day class included four hours of lecture and four hours of hands-on demonstrations with return demonstrations and competency assessment. The nurse educator administered a pretest and posttest to capture knowledge-base improvement. The knowledge-base improvement results were similar to those in the two-day class. The feedback on the course evaluation was also very positive.

To accomplish the education and testing of 530 employees, the nurse educator hired four perioperative nurses to help with the implementation. All of the nurses taught in similar ways to ensure consistency and quality. The project took place over a four-month period during which the nurses taught a minimum of three classes per week. Every staff member was required to attend, including managers. The presence of managers demonstrated their support to staff members. Based on the pretest and posttest scores, every participant demonstrated an increase in knowledge. Staff member reflections affected the instructors most because these documented the staff members' appreciation for the education that was provided and described how staff members planned to change their practice based on the education received.

Instructors took on the role of change agents by prompting the need to update hospital policies in the interventional areas to reflect the AORN standards of practice. Administrators made proper attire available for all staff members in these departments. Skin preparation techniques, gowning and gloving, custom sterile supply handling, opening of sterile supplies, and hand scrubbing improved, and awareness regarding patient positioning was enhanced.

CONCLUSION

Change is difficult even when it is a desired change. Thought and commitment are required for change to be successful. The practice of perioperative

nursing will continue to evolve and continue to require adaptation and change if perioperative nurses are to provide quality care. Areas needing change must be carefully identified, and the reasons for proposed changes must be clear and relevant to those who are expected to make the changes. There must be opportunity to practice new behaviors and demonstrate competency for the learning to solidify. Nurses can help make these changes by assuming a leadership role and assessing practice area or staff members' needs and can provide the help needed to accomplish identified goals. With patient safety as the reason for change, perioperative nurses can continue to perform as patient advocates by instituting the change process whenever needed. [AORN](#)

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