Acute Care Nurse Practitioner: An Advanced Practice Role for RN First Assistants

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Perioperative nurses and RN first assistants (RNFAs) have long been familiar with the advanced practice roles of the certified RN anesthetist (CRNA), certified nurse midwife (CNM), clinical nurse specialist (CNS) as clinical educator, and the family nurse practitioner (FNP) as a primary care provider. An advanced practice role that perioperative nurses and RNFAs may not be as familiar with is the acute care nurse practitioner (ACNP). Acute care nurse practitioners are educationally prepared to provide advanced nursing care to patients with complex acute, critical, and chronic illnesses. This role is ideally suited to perioperative nurses and RNFAs who want to take on an advanced practice role but do not want to leave the hands-on, acute care setting of the perioperative arena.

Advanced Practice Roles and Scope of Practice

The scope of practice defined by each state determines the type of patients that NPs can treat, where they can practice, and under what circumstances they may do so. In the past, some perioperative nurses and RNFAs may have been hesitant about pursuing an advanced practice role, believing that the only nurse practitioner (NP) option was the FNP role. The FNP course of study and scope of practice would likely take them out of the acute care setting they enjoy and are most comfortable in and move them into the outpatient primary care setting of a clinic or health department. Family NPs are trained for care of the family unit from newborns and the postpartum woman to older adults, and they are educationally prepared to provide direct patient care aimed at health promotion, health protection, and disease prevention.[1] Other NP specialties include

- psychiatric,
- neonatal,
- pediatric,
- adult,
- gerontological,
- women's health, and
- acute care.

An advanced practice opportunity for perioperative nurses who are interested in OR education, practice and policy development, research, or management is the clinical nurse specialist (CNS) role; employment in private practice for a surgeon or other specialist also is an option in some states. In defining the CNS role, the National Association of Clinical Nurse Specialists says that a CNS

> *independently provides theory and research-based care to clients in facilitating attainment of health goals, works with nurses to advance nursing*

ABSTRACT

ACUTE CARE NURSE PRACTITIONERS (ACNPs) are advanced practice RNs who are educationally prepared to provide advanced nursing care to patients with complex acute, critical, and chronic illness.

THE EDUCATION of advanced practice nurses should prepare them for the setting in which they practice; ACNPs are well prepared for hospital and specialty practice, particularly if they have experience as RN first assistants (RNFAs).

THIS ARTICLE PROVIDES a brief overview of the ACNP opportunity for RNFAs and the importance of additional training for ACNPs without OR experience who may be first assisting. *AORN J* 87 (June 2008) 1205-1215. © AORN, Inc, 2008.

practice to improve outcomes cost-effectively, and/or provides clinical expertise to affect system-wide changes in organizations to improve programs of care.[2]

It is important to check the scope of practice for CNSs in the state in which the nurse will practice. In some states, the CNS is considered an advanced RN practitioner (ARNP), but not in other states. States that do not recognize the CNS as an ARNP limit the CNS's scope of practice in areas of prescriptive authority, practice options, and reimbursement from Medicare and other third-party payers.[3] In addition, state legislatures pass regulations that change the scope of nursing practice. For example, effective July 1, 2007, the Nebraska State Legislature signed into law a new definition of ARNP that includes CNSs, CRNAs, and CNMs. Before July 1, 2007, in Nebraska, "ARNP" referred only to the NP roles. This legislative action also allows licensure for CNSs.[3]

Another advanced practice role that perioperative nurses and RNFAs can pursue is the ACNP role, which allows for more hands-on patient care than the CNS role. Acute care NPs provide advanced nursing care to patients with complex acute, critical, and chronic illnesses. Practice settings include acute and subacute hospital departments such as the intensive care, burn, emergency, trauma, dialysis, or medical-surgical units, as well as specialty office and rehabilitative settings. Acute care NPs are often the mid-level provider of choice in specialty practice, such as pulmonology, cardiology, oncology, nephrology, neurology, and any of the surgical specialties. The ACNP scope of practice is determined by each individual state's laws and is outlined in the Nurse Practice Act.[4]

Typically, both the CNS and ACNP practice primarily in acute care or specialty practice settings. The perioperative CNS is educationally prepared to focus specifically on the perioperative patient population through policy and patient care protocols and ensuring that mandated quality care initiatives are implemented. The perioperative ACNP is educationally prepared to make medical diagnoses collaboratively with a surgeon for individual patients, prescribe treatments for those medical diagnoses, and follow patients throughout their perioperative experience, including post-hospital discharge care.[5] A survey of 158 CNSs and 77 ACNPs supports the scope of practice described for each role. The ACNP respondents indicated that individual patient care accounted for 74% of their practice time, whereas the CNS respondents indicated that 26% of their practice time was spent on individual patient care.[6]

The acute care nurse practitioner role is an advanced practice role that allows for more hands-on patient care than the clinical nurse specialist role.

Development of the ACNP Role

In the 1970s, the first ACNP role evolved from the pediatric NP role. A combination of cutbacks in the number of pediatric residents and increasing acuity and complexity of surviving neonatal patients prompted the development of the neonatal NP role.[4] A similar scenario then occurred in the adult population, and primary care NPs began accepting positions and additional training for hospital-based practice.[7] The need for educationally prepared ACNPs became apparent, and the first graduate-level, adult ACNP programs emerged in the late 1980s, with the first national certification examination by the American Nurses Credentialing Center being offered in 1995.[4]

Also in 1995, AORN recognized and defined the role of the perioperative advanced practice nurse with an official statement of practice approved by the AORN House of Delegates.[8] This statement was revised in 2006 to indicate that a hallmark of NP skill is autonomy and expertise in assessing, diagnosing, and prescribing pharmacological and treatment modalities in the care of the

surgical patient.[9] This is a descriptive statement that is not used as a form of credentialing or titling by any state board of nursing, and it is applicable to either a CNS or NP.[9]

In 2003, the Accreditation Council for Graduate Medical Education mandated restricting resident physicians to working 80 hours per week.[10] Teaching institutions that traditionally relied on surgical residents for first assistant services have begun using the surgically trained NP or physician assistant (PA) to fill the void in care created by the decrease in resident hours.[11]

As Medicare and other third-party reimbursements continue to decline, demand for ACNPs is increasing. Surgeons are faced with increasing demands on their time and are looking for ways to maximize their practice resources without compromising patient care outcomes.[12] A surgeon functioning as a first assistant is allowed to bill Medicare 16% of the surgeon's Medicare allowable charge. An ARNP, CNS, or PA may bill 13.6% for the same service.[13] Reimbursement from commercial insurance for first assistant services is dependent on the individual company policy; some payers allow 20% or 25% of the surgeon's allowable fee. The ACNP as first assistant is cost-effective for the patient, insurance provider, and surgeon. When the simplicity of a surgical procedure does not warrant an assistant, the ACNP's time and skills may be used to monitor, assess, educate, and treat inpatients or outpatients, optimizing patient care and efficiency for the surgeon.

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The Impact of NP Care on Patient Outcomes

Several research studies have shown that in addition to being cost-effective, the use of NPs and ACNPs in patient care leads to positive patient outcomes. Brooten et al[14] analyzed 333 interaction logs created by NPs during five randomized controlled trials that included

- very low birth weight infants,
- women who underwent unplanned cesarean birth,
- women with a high-risk pregnancy,
- women who underwent hysterectomy, and
- older adults with cardiac medical and surgical diagnoses.

Each group was monitored for total amount of NP time, number of contacts per patient, and mean length of time per NP contact. The groups with greater mean NP time and contacts per patient had greater improvements in patients' outcomes and greater health care cost savings.[14] Hysterectomy and cardiac surgical diagnoses were included in this study; it is reasonable to expect similar findings of improved patient outcomes and cost savings when an ACNP is part of the team for other surgical specialties as well.

Researchers for the randomized controlled trial Study of Nursing Intervention in Practice assigned 339 consenting patients scheduled for elective cardiac catheterizations to receive preprocedure teaching and preparation by either an NP or a junior medical staff member.[15] The cardiologist's evaluation of patient preparation was acceptable in both groups, with both groups having nearly equal scores: 98.3% in the NP group and 98.8 % in the junior medical staff member group. No adverse events occurred in patients in the NP group and adverse events occurred for two of 161 patients (1.2%) in the junior medical staff member group. Patient satisfaction questionnaires indicated greater satisfaction in the NP group ($P = .04$), and the median duration of the preadmission visit was lower in the NP group (ie, 165 minutes in the NP group versus 185 minutes in the junior medical staff member group). The researchers concluded that an appropriately trained NP can safely prepare patients for diagnostic cardiac catheterization.[15] This study indicates that ACNPs are well suited to provide preprocedure patient teaching.

In a 31-month study by Hoffman et al[16] in a teaching institution, researchers compared

patient outcomes in a subacute intensive care unit (ICU) as managed by two teams: an ACNP and attending physician team and a critical care fellow or pulmonary fellow and attending physician team. The results showed that the duration of mechanical ventilation, length of stay, readmission rates, and mortality did not differ between the two management teams, indicating that an ACNP and attending physician team can safely manage chronically critically ill patients. Both the ACNP and the critical care/pulmonary fellows demonstrated similar efficiency profiles related to time spent in patient management. The ACNP spent 44% of the time on care activities compared with 40% for the fellows. The researchers concluded that an ACNP/attending physician team can competently assume responsibility for the management of chronically and critically ill patients.[16] The concept of using ACNP/physician teams is applicable to the care of surgical patients.

The ACNP Role in a Surgical Practice

In addition to first assisting during surgery, preoperative and postoperative responsibilities of the ACNP in a surgical practice may include, but are not limited to,

- taking histories and conducting physical examinations,
- working collaboratively to manage inpatients,
- providing patient education,
- performing postoperative discharge planning, and
- teaching.

Performing outpatient follow-up care and minor procedures (eg, inserting arterial lines, thoracostomy tubes, or chest tubes; performing wound repair; excising skin lesions) and consulting with referring physicians all may be part of a collaborative surgical practice.[17,18] Although the training for all NPs includes the basic NP skills of taking histories and conducting physical examinations, ACNP education also includes a focus on stabilizing acute problems, preventing and managing complications in the hospital setting, and providing comprehensive management of injury or illness.[4] The ACNP who first assists during surgery has a unique perspective from which to manage the acute episode of the surgical patient and work collaboratively with the surgeon, OR staff members, perioperative CNS or educator, hospital surgical unit staff members, and office staff members to achieve the best possible outcomes for each patient.

An ACNP with an RNFA background is uniquely qualified to evaluate patients preoperatively for potential intraoperative or postoperative complications. For example, an RNFA will know that electrolyte imbalances may precipitate cardiac dysrhythmias and that a hypertensive crisis or an unsafe level of anticoagulation may warrant postponement of the surgery. An ACNP without experience in the OR may lack some of the essential knowledge for a first assistant. Awareness of physiological conditions that may impair wound healing, such as diabetes, chemotherapy, steroid use, or malnutrition, will aid the ACNP and surgeon in proper wound closure techniques and choice of antimicrobial therapy to avoid postoperative complications. Patient medications, age, nutrition status, body habitus, wound classification, and intraoperative events all factor into decisions regarding suture selection, drains, and length of time sutures or staples should remain in place. Preoperative medication administration, intraoperative use of antibiotics, and postoperative management are guided by evidence-based research and tailored to a patient's individual needs.

After surgery, daily rounding on patients allows the ACNP to monitor patient progress, collaborate with the surgeon and staff members regarding best practice management, and identify patient education needs. Continuity of care for the patients and a consistent person for staff members to contact with patient concerns also is an important aspect of ACNP patient rounds, particularly in a teaching facility where surgical residents change frequently.

The Need for Adequate Training

Surgeons expect a competent first assistant to be familiar with the steps of the surgical procedure and to be acutely knowledgeable regarding the anatomic location of critical structures, physiologic consequences of tissue handling, and how to anticipate these consequences without

needing continual instruction or direction. The ability to identify and avoid damage to nervous and vascular structures, as well as knowing where electrosurgery or clamping can be safely applied, is only one difference between an OR-naive assistant and an experienced assistant. Experienced RNFAs know the consequences of tissue handling and are able to anticipate the steps of the surgical procedure.[19]

Rothrock and colleagues sought to determine the pre-existing level of competence in fundamental perioperative nursing care among a cohort of 16 NPs enrolled in the Delaware County Community College's RNFA program.[19] A self-rating instrument to measure fundamental perioperative nursing competencies was used. Of the 16 NPs, none had RNFA experience, six had prior OR experience, and 10 had no OR experience. The NPs with OR experience indicated they knew many of the basic principles of perioperative care but lacked confidence in

- interpreting laboratory values and radiologic studies,
- using various means of achieving hemostasis in the surgical field,
- identifying referral services, and
- identifying fluid and electrolyte imbalances and replacement therapies.[19]

Nurses in the NP group without OR experience self-identified areas of deficiency in

- establishing intraoperative nursing diagnoses and patient outcomes;
- developing an intraoperative plan of care, including knowing instrumentation, supplies, and equipment needed;
- safe patient positioning for the surgical intervention;
- creating and maintaining a sterile field;
- anticipating requirements of the surgery;
- performing counts to prevent the risk of injury from a retained foreign body;
- participating in use of surgical medications;
- calculating blood loss;
- monitoring and controlling the surgical environment, including traffic patterns, electrical safety, thermoregulation, and environmental sanitation;
- exercising safe judgment and decision-making based on past experience; and
- evaluating desired patient outcomes for the intraoperative period.[19]

This survey showed that several self-identified gaps in knowledge and skill existed for the NPs surveyed before starting an RNFA program. This finding could raise issues of concern for patient safety if an ACNP accepts the responsibility of first assisting without previously obtaining adequate training.

Patient safety is of utmost concern in the surgical setting. The Joint Commission now sets annual National Patient Safety Goals, one of which is reducing surgical site infections.[20] If an ACNP practicing in the role of first assistant is unfamiliar with the essentials of creating and maintaining a sterile field or of environmental sanitation in the OR, as noted in the self-report analysis by Rothrock,[19] the risk of surgical site infection would increase rather than decrease. Safe patient positioning also is a constant concern in the OR. The first assistant frequently assumes responsibility for patient positioning before the surgeon's arrival. Permanent nerve or vascular damage can occur as a result of improper positioning or inadequate protection of vulnerable areas.

These examples illustrate the importance of additional training for the OR-naive ACNP. From a medical-legal perspective, the ACNP who accepts the responsibility of first assisting should be able to demonstrate educational preparation and experience that qualifies him or her to function in the role of first assistant.[21] In today's litigious society, additional credentialing as a graduate from an RNFA program adds to the credibility that the ACNP is practicing within his or her scope of practice. When NPs practice outside the scope of practice for which they have been trained and have experience, significant liability issues arise.[22]

Training for ACNPs

Certification for NPs specifically trained in acute care started in 1995.[4] As scope of practice laws change with this relatively new ACNP option, hospital administrators are looking more closely at the educational background and experience of the NPs in their facilities. Competencies guiding the educational preparation of the ACNP are spelled out in the *Acute Care Nurse Practitioner Competencies* developed by the

TABLE 1
RNFA Programs[1]

The following RN first assistant (RNFA) programs have met specific criteria and are accepted by the Competency & Credentialing Institute (CCI) as acceptable programs for certified RN first assistant (CRNFA) eligibility. The program acceptance plan began in June 1998. Any formal RNFA programs taken before that date will be allowed for CRNFA eligibility.

None of the programs below are affiliated with CCI, so they may have separate eligibility requirements for enrollment. Please note that the following list is subject to change without notice. Web site addresses have been provided where available.

The * denotes those programs that are affiliated with an accredited school of nursing. If you need more information on their accreditation status, please contact the school directly.

Alabama
*University of Alabama at Birmingham, School of Nursing
(205) 934-0610

California
*School of Nursing, University of California at Los Angeles–Extension
(310) 825-7093
http://www.uclaextension.edu/index.cfm?href=/departmentalpages/index.cfm&department=/healthsci/index.cfm

Colorado
*NIFA Distance Learning RNFA Program, Denver
Affiliated with Community College of Southern Nevada
(800) 922-7747
http://www.rnfa.net/

Florida
Professional Assistants PRN, Naples
Affiliated with Southwest Florida College in Tampa
(813) 630-4401
http://www.swfc.edu/

*University of South Florida, College of Nursing, Tampa
(813) 974-4392
http://www.hsc.usf.edu/nocms/nursing/index.html

Iowa
Hawkeye Community College, Waterloo
(319) 296-2320 x 4457
http://www.hawkeyecollege.edu/futurestudents/programsoffereddetail.asp?ProgramNameID=Registered%20Nurse%20First%20Assistant

Kansas
*Elite School of Surgical First Assisting, Topeka
(877) 224-0133
E-mail: *info@essfa.net*

Maryland
*Anne Arundel Community College, Arnold
(410) 777-7352
http://www.aacc.edu/default.cfm

Massachusetts
*Northeastern University, School of Professional and Continuing Studies, Boston
(617) 373-5474
http://www.spcs.neu.edu/professional/rnfa2

*Lawrence Memorial/Regis College, Medford
(781) 306-6684
http://www.lmregisnurse.org/

Michigan
*Oakwood Hospital Heritage Center, Taylor
Affiliated with Wayne County Community College
(313) 295-5400
http://www.oakwood.org/Locations/locations_detail.asp?SiteCode=05

National Panel for Acute Care Nurse Practitioner Competencies.[23] All NPs are trained in a core set of competencies; additional training provided for ACNPs includes assessment of the acutely ill patient, electrocardiogram and x-ray interpretation, acute care respiratory support, arterial line and chest tube insertions, hemodynamic monitoring, and acute and critical care pharmacological interventions, as well as additional training in the clinical setting specific to a chosen practice area. Additional skills mastered and procedures performed by the ACNP are influenced by the patient population or specialty area in which the ACNP is practicing, as well as individual abilities, motivations, and personality traits.[4,23]

Nurse practitioners without formal acute care

TABLE 1
RNFA Programs (continued)[1]

Missouri
*St Charles Community College,
St Peters
(636) 922-8284
http://www.stchas.edu/

*St Louis Community College
(314) 644-9272
http://www.stlcc.edu/

New Mexico
*Professional Nursing Seminars,
Taos Ski Valley
Affiliated with Northern New Mexico
Community College
(505) 776-5989
http://www.rnfirstassistant.com/

New York
*SUNY Upstate Medical University,
College of Nursing, Syracuse
(315) 464-4276
http://www.upstate.edu/con/

*University of Buffalo
School of Nursing
(716) 829-2533
http://nursing.buffalo.edu/

*University of Rochester,
School of Nursing/Community
Nursing Center
(585) 273-5456
http://www.edvantagehealth.com/

North Carolina
*Moses Cone Health System and North Carolina
Agricultural & Technical State University, Greensboro
(336) 832-2575
http://www.mosescone.com/careercenter.cfm?id=1365

Ohio
*Columbus State Community College
(614) 287-2487
http://www.cscc.edu/

*Lakeland Community College, Kirtland
(440) 525-7016
http://www.lakeland.cc.oh.us/

*Lorain County Community College, Elyria
(800) 995-5222, ext. 7159
http://www.lorainccc.edu/
E-mail: *psedlak@lorainccc.edu*

Pennsylvania
*Delaware County Community College, Media
(610) 359-5286
http://www.dccc.edu/

*Luzerne County Community College, Nanticoke
(570) 740-0575
http://www.luzerne.edu/index.jsp

Canada
British Columbia Institute of Technology–Specialty
Nursing, Burnaby
(800) 663-6542 - local 7079
http://www.bcit.ca/health/nursing/

1. RNFA programs. Competency & Credentialing Institute. http://www.cc-institute.org/cert_crnf_prep_rnfa.aspx. Accessed January 8, 2008.

All web sites accessed January 8, 2008.

Adapted with permission from the Competency & Credentialing Institute, Denver, Colorado.

training who want to pursue an ACNP role can acquire clinical competence in several ways:

- through preceptorships and mentoring by a collaborating physician,
- attending a formal post-master's ACNP program,
- attending conference sessions focusing on acute care skills, or
- obtaining certification through advanced course work such as the Society of Critical Care Medicine's Fundamentals of Critical Care Support course.[24]

Acute care NPs new to the surgical arena can acquire the basic skills of first assisting from one of the RNFA programs that have incorporated NP competencies into the curriculum (Table 1).

Many RNFA programs have special considerations for advanced practice nurses regarding their admission policy. Some programs address the specific needs of the advanced practice nurse without OR experience by adding extra clinical and didactic time to the curriculum.[25] If attending a formal RNFA program is not an option for the ACNP, the perioperative CNS or educator can teach the ACNP basic intraoperative skills to enhance patient safety before he or she begins learning the first assistant role. Short seminars in suturing also are available in some of the RNFA programs.

Perioperative nurses and RNFAs can access NP graduate studies intended specifically for the acute care setting from one of the many ACNP graduate programs across the nation. Kleinpell et al[5] outlined contact information for 70 schools offering the ACNP option to graduate and post-graduate students in their article "Educational options for acute care nurse practitioner practice." Some, but not all, graduate programs require critical care experience in an ICU or emergency room before accepting an applicant into the ACNP track. Perioperative nurses and RNFAs without critical care experience may be able to obtain the minimum experience required for admission by working part time in an ICU while attending graduate school.

An Ideal Role for RNFAs

The ACNP role developed out of a need for advanced practice nursing care in the acute care setting. Blending the roles of ACNP and RNFA offers optimal benefits to patients and surgeons by incorporating the knowledge and skills of both roles into a collaborative surgical practice. As scope of practice laws are refined to reflect the expected standard of care, however, it is becoming more important to ensure that ARNPs practice within the scope of practice of their specialty. The introduction of ACNP graduate programs provide RNFAs and perioperative nurses with an opportunity for advanced practice education that prepares them to take on an advanced practice role in an acute care setting. – AORN –

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A Small Amount of Exercise Increases Quality of Life

Exercising as little as 10 to 30 minutes a day may help women improve their quality of life, according to a March 13, 2008, news release from the American Heart Association. A recent study examined the role of exercise training in 430 sedentary overweight or obese postmenopausal women. Study participants were randomly assigned to one of four groups. Three of the groups exercised at varying levels. The fourth group served as the control group and did not exercise. Participants completed a survey before and after the study to measure quality of life and determine physical and mental health. Survey scores were adjusted for ethnicity, age, employment status, smoking, anti-depressant use, and marital status.

After six months of exercise, researchers found improvement in the following areas:

- almost 7% in physical function and general health;
- 16.6% in vitality;
- 11.5% in performing work or other activities;
- 11.6% in emotional health; and
- more than 5% in social functioning.

At the beginning of the study, vitality and emotional scores among participants were lower than for the average US population. After six months, however, participants' vitality and emotional scores were higher than average. Individuals who participated in the highest levels of exercise saw the greatest improvement, but women in the lower levels also saw improvement.

Though some women lost weight during the course of the study, their self-reported improvement in quality of life was not dependent on weight loss. Researchers concluded that a positive association does exist between exercise at any level and the effect it has on one's quality of life.

Overweight, obese women improve quality of life with 10 to 30 minutes of exercise [news release]. Colorado Springs, CO: American Heart Association; March 14, 2008. http://americanheart.mediaroom.com/index.php?s=43&item=364. Accessed March 14, 2008.