The Changing Roles of Perioperative Nursing

An Honors Thesis (HONRS 499)

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May 1992

May 2, 1992
Purpose of Thesis

The purpose of this thesis is to review the changing roles of perioperative nursing from 1873 to the present. This review describes the yesterday, the today, and the tomorrow of the perioperative nurse. The yesterday of the perioperative nurse depicts the history and the evolution of perioperative nursing. The today of perioperative nursing is a description of the present role of this nursing specialty in society. The tomorrow is the trends and predictions for the future of perioperative nursing. All of these phases show the changing roles of perioperative nursing.
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THE CHANGING ROLES OF PERIOPERATIVE NURSING

Introduction

The professional nurse in the operating room plays an integral role in the surgical amphitheater. The nurse identifies the physiological, psychological and sociological needs of the patient. From knowledge of the natural and behavioral sciences, the nurse must also implement an individualized program of nursing actions for the patient. The assessment and implementation of the proper nursing care are essential to restore and/or maintain the health and welfare of the patient before, during, and after surgical intervention (Atkinson & Kohn, 1986).

The role of the perioperative nurse has changed dramatically as surgical concepts have evolved. Following is a discussion of the yesterday, the today, and the tomorrow of the changing perioperative nurse role. The 'Selected Events in the Evolution of Perioperative Nursing,' developed by Youtsey and Whitaker-Ebbert (1989), can be used as a guide to the
major events in this role transition (See Appendix A).

Yesterday---The History of Perioperative Nursing

1873-1900

Florence Nightingale (1820-1910) influenced perioperative nursing by providing psychological comfort yet sound client rationale for surgical intervention. Writing of Nightingale's influence during the war times, Lee (1976) states, "...that when men, frenzied by their wounds and disease, had worked themselves into a passionate refusal to submit to necessary operations, a few calm sentences of hers seemed at once to allay the storm; and the men would submit willingly to the painful ordeal they had to undergo."

Thus, a foundation was established for the opening of Florence Nightingale's school at St. Thomas Hospital in London. In the United States three nursing training schools; Bellevue, Connecticut, and Boston, were established in 1873. Faculty at one of the three schools, Bellevue School in New York City, taught lectures on "Surgical Instruments and Preparation for Operation," "Bandaging," and "Haemostasis."

A pathologist, a surgeon, and an internal medicine
doctor established John Hopkins University in Baltimore. The educational program at this University included operating room content in the curriculum for physicians and nurses. In 1889, operating room nursing actually became identified as an area of specialization and became nursing's first specialty (Groah, 1990).

Other schools continued to include operating room related content in their curricula. For example, a lecture on bacteriology was added to the curriculum at the Boston Training School in 1889. By 1891 student nurses at this school were given the responsibility of cleaning and sterilizing instruments for surgical operations. Faculty at the nursing school increased this responsibility in 1896 by assigning student nurses to assist with surgical operations on week-end duty (Groah, 1990). Illustrations for this period are included in Appendix B (Groah, 1990).

1900-1920

After the turn of the century, various factors changed the role of the surgical nurse. Anesthesia was improved, so the operating time could be extended and surgical mortality rate reduced. Surgical procedures were performed more often. Graduate nurses were in
charge of the surgical amphitheaters, and student nurses began to assist regularly with operations and etherizing. Martha Luce of Boston in 1901 described the skills and duties of an operating room nurse as numerous: knowledge of the principles of asepsis, careful attention to details, and much forethought in the preparation of supplies (Groah, 1990).

During these two decades the roles of the "circulator" and the "scrub" nurse were beginning to emerge. The surgeon insisted the sterile or scrubbed nurse be the senior member of the nursing team. By 1910, though, nursing authorities stated the nurse who remains unsterile, or circulates, must manage the operating room and be the senior, more experienced nurse (Groah, 1990).

1920-1940

During these decades, the student nurse provided most of the patient care under the direction of a trained or graduate nurse. In 1919, the National League of Nursing Education (NLNE) included in their standard curriculum a section on "Operating Room Technic." It was to be an optional guide and not mandatory for schools to implement. It included ten
hours of instruction in operating room technique and bacteriology and 20 hours in surgical diseases.

In 1933, the Subcommittee on Surgical Nursing of the Education Committee of the NLNE outlined a master curriculum plan for an advanced course in operating room technique. This plan was the first attempt to standardize the level of nursing care in the operating room by a national organization. This curriculum was to serve as a model of standards for training operating room nurses during the next decade.

Conditions in the country set the stage for a change in perioperative nursing at the end of these two decades. By 1940, the number of graduate and student nurses were declining due to the depression and lack of necessary finances for the schools of nursing to stay open (Groah, 1990).

1941-1945

When World War II began, many hospital nurses left to join the Armed Forces. This exodus of nurses caused an acute nursing shortage in the United States. Hospital administrators were forced to begin employing nonprofessional staff to replace the nurses. For example, orderlies were employed as circulators in the
operating room.

Army nurses needed additional training during a 12-week postgraduate course in operating room technique established at Cushing General Hospital in Framingham, Massachusetts to meet the demands of the field and evacuation hospitals. This course included basic principles, such as gowning and gloving; fluid therapy including plasma and whole blood transfusions; care of patients in shock or respiratory or cardiac failure; and methods of administering general, spinal, intravenous, or rectal anesthesia.

The position of "operating room technician," was also created during these decades to fill the void of trained personnel to assist in surgery. Army and Navy nurses taught the theory of this course for the operating room technician on how to function in scrub and circulating roles, and how to serve as an assistant to an anesthetist and as a first assistant.

The effect of World War II was restructuring of functional areas and personnel utilization in hospitals. For example, centralized departments for the processing and reprocessing of sterile supplies for use in the operating room were created. Another
important effect was the increased use of nonprofessional personnel to perform tasks formerly identified as nursing responsibilities (Groah, 1990).

1946-1960

Continued changes occurred in the roles of operating room personnel in the two decades following World War II. The operating room technicians were to perform certain routine duties under the direct supervision of a graduate nurse. The graduate nurse, in turn, would perform more complex nursing activities.

During these postwar years, nursing educators began to doubt if the operating room rotation was essential to the learning of the student nurse because of the development of the operating room technician. This atmosphere of uncertainty lead to the elimination of the operating room rotation from the curriculum of most nursing schools.

Despite these transitions, in January 1949, seventeen operating room supervisors from New York City cited a need for an organization to meet routinely to pool knowledge and exchange ideas. The result was the Association of Operating Room Nursing (AORN). Primary goals of this association included the following:
1. To stimulate operating room nurses in other parts of the country to form similar groups.
2. To be a specific group to pool and share nursing knowledge and technology.
3. To provide the surgical patient with optimum care through a broad educational program.
4. To make a body of knowledge available to operating room nurses.
5. To motivate experienced operating room nurses to share their expertise with others.
6. To be an association for the benefit of all professional operating room nurses (Groah, 1990).

In 1957, AORN became an independent national organization that would aid in the future development of operating room nursing (Groah, 1990).

1960–1970

The AORN published its first official issue of their journal, *OR Nursing* in 1960. In 1963, the name was changed to the *AORN Journal*. The AORN journal has been published monthly since 1967. During the 1960s, major concerns of the AORN centered on the shortage of operating room nurses and the best use of trained paramedical personnel in the operating room.

In 1965, the AORN, American Nurses Association (ANA), and National League for Nursing (NLN) met to recommend standards and guidelines for the selection, instruction, and training of operating room technicians. In 1968, the AORN House of Delegates formed an allied association, the Association of...
Operating Room Technicians (AORT). In 1973, they changed their name to Association of Surgical Technologists (AST). During this transition, the title of operating room technician was changed to surgical technologist. (Groah, 1990).

In 1969, the AORN defined operating room nursing. The association also identified the objective of clinical practice of professional operating room nursing as "to provide a standard of excellence in the care of the patient before, during, and after surgical intervention" (Groah, 1990).

1970-1980

Before this decade, AORN's primary focus was the education of operating room nurses. The focus of the association in this decade expanded to respond to the need for national standards, official policies, and position statements. In 1973, a resolution was adopted to make it necessary for a registered nurse to be in the operating room. The AORN then assumed the role of the consumer advocate and determined what the functions of registered nurses were to be in this critical nursing area. Thus, in 1975, the AORN formulated a policy statement that the circulator must always be a
professional registered nurse in the operating room.

The AORN and ANA developed the "Standards of Nursing Practice: Operating Room" in 1975 in response to the need for quality patient care. These standards focused on the process of nursing practice and were directed toward providing continuity of nursing care through preoperative assessment and planning, intraoperative intervention, and postoperative evaluation (Groah, 1990).

In 1976, the AORN Board of Directors appointed a task force to define the role of nurses in the operating room. The task force was to identify a universal definition of operating room nursing practice that was to include the integration of both technical and professional functions. In 1978, the House of Delegates adopted the following definition of operating room nursing in its Statement of the Perioperative Role:

The perioperative role of the operating room nurse consists of nursing activities performed by the professional operating room nurse during the preoperative, intraoperative, and postoperative phases of the patient's surgical experience. Operating room nurses assume the perioperative role at a beginning level dependent on their expertise and competency to practice. As they gain knowledge and skills they progress on a continuum to an advanced level of practice.
This statement created a milestone in that the operating room nurses became the first specialty to define its role. The task force also developed recommendations for implementing the perioperative role and discussed implications of this role for the future (Groah, 1990).

1980-1990

During this decade, the health care industry focused on their many challenges: increased health care costs, advancements in medical technology, the public's increased knowledge of health care, and the abundant supply of providers and facilities in the health care field. Also, hospital administrators discovered ambulatory surgery that provided equal quality of care at a lower cost. The perioperative nurses continued to assume a leadership role in the care of all surgical patients.

In 1980, the AORN House of Delegates adopted a Statement on the Role of the First Assistant: "absence of a qualified physician, the registered nurse who possess appropriate knowledge and technical skills is the best qualified nonphysician to serve as the first
The 1978 definition of operating room nursing was recognized during the 1980s as too restrictive. The older definition addressed the individual practitioner rather than the scope of nursing practice in the operating room. A revised statement was adopted for the term perioperative nursing practice. Perioperative practice encompasses the expected behavior patterns and technical activities performed that are flexible and diverse during the preoperative, intraoperative, and postoperative phases. The roles of the perioperative nurse could be the scrub person, circulator, manager, educator, and first assistant. The perioperative nurse delivers care through the nursing process reflected in the "Standards of Perioperative Nursing Practice" (Groah, 1990).

In 1988, the AORN Board of Directors adopted a Policy, Plan, and Priority Statement on Nursing Research. This statement placed a priority on validating through research the current recommended practices for perioperative nursing. The focus of research was the generation of scientific knowledge that would enable perioperative nurses to develop
recommended practice and desired patient outcomes (Groah, 1990).

1991

This year brought out the courage and commitment of perioperative nurses to meet the challenges of Operation Desert Storm in which the United States entered war with Iraq on January 16, 1991. It was the first war many had heard, seen, or felt. These perioperative nurses renewed their commitment to nursing. Some quotes from these nurses during the Persian Gulf: "I have been exhilarated, proud, sad, tired, scared, and bored—sometimes all in the space of 30 minutes," said Major W. "...It's amazing that some people in that barracks are fine and some are so terribly injured. Still, I am proud to be [here] and proud of what we are doing here for our men and women," Lieutenant B. said (Reeder, 1991).

Today---The Present of Perioperative Nursing

The Roles, Objectives, and Standards of Perioperative Nursing

The role of the perioperative nurse is "nursing activities performed by the professional operating room
nurse during the preoperative, intraoperative, and postoperative phases of the patient’s surgical experience" (Atkinson & Kohn, 1986). Thus, the perioperative phase encompasses the patient’s total experience during surgical intervention. Role is the expected behavior patterns and clinical activities that the perioperative nurse performs during the three phases of surgical care. The perioperative nurse needs to have the abilities of knowledge, judgment, and skill to fulfill this role. The nurse makes decisions, assists, and supports the patient’s needs. The objectives of perioperative nursing are:

1. To apply nursing process to nursing actions in the OR so they can correlate the operative procedure with other aspects of patient care.
2. To promote an understanding of the patient’s total surgical experience by demonstrating the ability to assess physiological, psychological, and sociological patient needs and prepare a nursing care plan.
3. To reinforce basic knowledge of anatomy and physiology and to gain knowledge of the total patient experience as a basis for management of preoperative patient anxiety related to body image and postoperative pain related to site of incision and intraoperative procedure.
4. To assist patients with the management of anxiety by assessing their needs for psychological support preoperatively and by anticipating their psychological and physiological needs in the postoperative recovery period through an understanding of the total surgical experience.
5. To recognize the effects of preoperative medication, anesthesia, positioning on the
operating table, site of incision, and operative procedure as the basis for planning the patient’s postoperative recovery and rehabilitation.

6. To develop an appreciation of the meaning of the surgical experience for patients and their families as a basis for correlating the intraoperative phase with establishment of priorities for teaching and planning all aspects of surgical patient care to promote continuity of care.

7. To become an effective communicator with patients through pre- and postoperative teaching based on knowledge of the intraoperative procedure as it relates to each individual patient.

The overall objective of perioperative nursing is to improve the intraoperative care rendered to surgical patients by the OR team and the patient’s outcomes of surgical intervention (Atkinson & Kohn, 1986).

The Standards of Perioperative Nursing Practice were published in 1981 that reflect the nursing process and state the activities to be performed:

Standard I: The collection of data about the health status of the individual is systematic and continuous. The data are retrievable and communicated to appropriate persons.

Standard II: Nursing diagnoses are derived from health status data.

Standard III: The plan of nursing care includes goals derived from nursing diagnoses.

Standard IV: The plan for nursing care prescribes the nursing actions to achieve the goals.

Standard V: The plan for nursing care is implemented.

Standard VI: The plan for nursing care is evaluated.

Standard VII: Reassessment of the individual, reconsideration of nursing diagnoses, resetting of goals, and modification and implementation of the nursing care plan are a continuous process (Atkinson & Kohn, 1986).
The Phases of Perioperative Nursing

There are three phases of the perioperative role to implement the nursing process via a continuum (AORN, 1988, See Appendix C). The first phase is the preoperative phase. "This phase begins when the decision for surgical intervention is made and ends with the transference of the patient to the operating room table" (AORN, 1978). The nursing activities include an assessment which can be done at home through an interview or in the holding area before surgery. Planning is the second part, which determines a plan of care for the surgical client. Psychological support is the third part of the preoperative phase which helps determine the client's status and informs the patient of what is happening (AORN, 1978).

The second phase of the perioperative process is the intraoperative phase. "This phase begins when the patient is transferred to the operating room table and ends when he is admitted to the recovery area" (AORN, 1978). There are various priorities during this phase. The first one is the maintenance of safety which includes the accurate count of sponges and instruments. Physiological and psychological monitoring is the
second priority. This priority includes maintaining
the patient's vital signs and fluid balance. The
patient's emotional status is also assessed and support
is provided by the nurse. Nursing management is the
last priority for the intraoperative phase. This phase
includes the provision of physical safety for the
patient, maintenance of an aseptic controlled
environment, and effective management of human
resources (AORN, 1978).

The third phase of perioperative nursing is the
postoperative phase. "The patient's postoperative
period begins with the admission to the recovery area
and ends with a follow-up home/clinic evaluation"
(AORN, 1978). The nurse could teach pertinent
information to the patient in the recovery area or make
an assessment of the patient's physiological and
psychological status from the effects of surgery. The
nurse needs to communicate intraoperative information
such as type of surgery and necessary needs. The
postoperative nurse also does a postoperative
evaluation by determining the immediate response of the
surgical intervention from the patient. Then the nurse
can assess the patient's psychological status and
evaluate nursing care throughout the perioperative period (AORN, 1978).

The scope of the perioperative roles expands during the preoperative and postoperative phases when the nurse functions for the patient. The nursing activities may change or stay the same, but the nurse’s competencies increase. During the intraoperative phase, the nurse’s activities stay the same, but one will gain additional abilities in decision-making, knowledge, skills, experience, and education (AORN, 1978).

The Roles of Perioperative Nursing

The roles involved with perioperative nursing include circulator, scrub, and recovery room nurses. There is diversity of roles in perioperative nursing. A perioperative nurse is a scholar possessing a wealth of knowledge and understanding of sterilization, aseptic technique, anatomy, positioning, and pharmacology. A perioperative nurse is also a researcher linking theory with practice by testing one’s ability to implement expertise and knowledge through quality assurance studies of perioperative nursing activities into patient care. An educator is
also one of the roles of the perioperative nurse. The role includes preoperative patient education and the education of fellow staff and nursing students by explaining the rationale and the process of nursing activities. A theoretician, one who establishes a body of knowledge that presents a concise view of a subject, is also a perioperative nurse’s role. The perioperative nurse relates theory by understanding the standards of nursing practice and patient care, basic competency statements for a beginning practitioner, and recommended practices governing aseptic and technical practice. Perioperative nurses are also health advisers and consumer advocates. The registered nurse uses knowledge and clinical experiences to achieve an improved level of wellness for the patient and the patient’s significant others (Roth, 1984).

The first role of perioperative nursing is the circulator. The circulating nurse is the one who coordinates the activities of the room, implements the nursing care plan, and serves as the patient’s advocate. The circulator also provides emotional support to the patient prior to anesthesia induction, assists the anesthesiologist with the induction, and is
responsible for monitoring the traffic in the room and maintaining an accurate account of urine and blood loss throughout the surgical procedure. Before the surgery is finished, the circulating nurse completes the documentation, informs the recovery room staff of special needs, and assures that the counts of the sponges, instruments, and needles are correct. The circulator then accompanies the patient to recovery and reports to the recovery room nurse the patient's preoperative status, information about the intraoperative procedure, and performs an evaluation of the patient's postoperative status to determine the outcome of nursing actions (Groah, 1990).

Today there are many issues that plague nursing that affect the circulator such as the nursing shortage, education of OR personnel, cost containment, and the legal implication of using a Surgical Technologist (ST) as a circulator in surgery. Some reasons for the nursing shortage could be low salaries, poor working conditions, and little professional recognition. Also, specific shortage to the OR personnel could be due to the lack of exposure of nursing students to the OR. Cost containment is a
reason to allow STs to circulate to save hospital money by requiring less orientation time. The circulator is the one responsible for the ongoing nursing process during surgery according to the Commission's Standards, so STs shouldn't be circulating.

There are various recommendations for the future which would promote a more positive image for the circulating nurse. For example, documentation could be improved to reflect a more comprehensive record of patient care such as times of surgery, the personnel in the room, or specimens removed from the patient. Perioperative nurses should be included in preoperative and postoperative functions. Operating Room (OR) should be included in nursing curriculums. There should also be participation of perioperative nurses in nursing research (Shoup, 1988).

The scrub assistant may be a nurse or a surgical technologist. The scrub assistant scrubs one's hands and arms, dons a sterile gown and gloves, and is responsible for setting up and handling sterile supplies and instruments to the surgeon or first assistant. The scrub assistant also maintains an accurate count of sponges, instruments, and needles,
and assures that all members of the surgical team are adhering to aseptic technique (Groah, 1990). Today the scrub assistant role is referred to as a technical job, but it is time to add professionalism to this role because scrubbing is master craftsmanship. Perioperative nursing, surgeons, and patients need scrub nurses—not just a "technical assistant."

During the past 20 years, the perioperative nurses have come to view the roles of scrub and circulator differently because the professional should circulate rather than scrub due to:

- emergence of surgical technician as the scrubbed member of the perioperative nursing team in many hospitals,
- decline of operating room nursing content in many nursing curriculums,
- AORN mandate that the circulator must be a registered nurse,
- movement of operating room nursing from an intraoperative focus to a perioperative focus,
- Joint Commission on the Accreditation of Healthcare Organizations’ (JCAHO) standards and federal regulations" (Phippen, 1990).

The recovery room nurse or postanesthesia care (PACU) nurse is a specialty requiring one to have an in-depth knowledge of the process of anesthesia and types, actions, emergency drugs, potential complications, and emergency treatments for complications. The perioperative nurse functioning as
the circulator accompanies the patient to PACU with the anesthesiologist. The circulator gives report to the PACU nurse regarding the patient’s psychological status, types of surgical procedure, locations of tubes, drains, catheters, packings, dressings, condition and color of skin with actual or potential impairment of skin integrity, joint or limb mobility or impairment. The report also includes such factors as primary language, respiratory function or dysfunction including if the patient smokes, special requests of the patient, and all pertinent intraoperative occurrences and complications. The anesthesiologist’s responsibility is to report the type and extent of the surgical procedure, and the anesthetic agents used (Groah, 1990).

Nursing care in PACU is maintenance of respiratory function through pulse oximetry and a patent airway, maintenance of adequate circulation through vital signs checked every 15 minutes and assessment of shock, monitoring the patient’s level of consciousness, assessment of dressings, drains, and casting materials, and promotion, maintenance of physical and emotional safety and comfort, and documentation. When the
patient is ready for discharge, he will be accompanied by the PACU nurse and a hospital assistant to the unit where a full report on the patient's perioperative course is given to the unit nurse (Groah, 1990).

**Teamwork in Perioperative Nursing**

There are four stages of teamwork in perioperative nursing. A team is characterized by common goals, interdependence, cooperation, coordination of activities, division of effort, and shared language (Farley, 1991). Teamwork implies the effort is needed to accomplish the goals of the team. The first stage of teamwork is orientation showing the characteristics: opinions expressed cautiously, long pauses, artificial politeness, few interruptions, efforts unfocused. The ideal outcomes of the orientation stage are: members develop trust in each other, members begin to learn and accept those things expected of them. For the perioperative nurse to recognize this first stage can help one cope more effectively with the tension, role expectations, and individual needs for inclusion, acceptance, and influence.

The second stage is the adaptation stage. This stage involves assumption of necessary roles by team
members and the development of team norms. The perioperative nurse will enact a variety of roles at different times depending on the team and the need. Emergence is the third stage where conflict and power struggles are characteristic. The ideal outcomes for the emergence stage include the following: all necessary team roles are enacted, conflict is managing well, and "we" and "our team" sayings are often expressed. Stage four of teamwork in perioperative nursing is the production stage. Characteristics of stage four are: open and honest communication, shared leadership, decision-making, responsibility, bargaining and negotiation. Conflict is replaced by effective teamwork, and members achieve goals. Mutual support of each other, enthusiasm for teamwork, cohesiveness among members, collaboration of efforts, and team goals which supersede individual goals are all ideal outcomes of the productive stage. If a team successfully completes stage four, the members feel responsible for the output of their team and act to clear difficulties standing in the way. The team achieves a high level of success (Farley, 1991).

Teams are an essential part of perioperative
nursing practice. Nurses who have a knowledge of teamwork and experience in working on teams understand the process and problems as teams develop to mature and effective teams. Eventually, the team will achieve a high level of productivity and members will be more satisfied. According to Tenzer, teamwork "is not a panacea; it is a viable approach to developing a hospital's most valuable resource---people" (Farley, 1991).

HIV/AIDS in Perioperative Nursing

In society today there is a major issue affecting everyone including perioperative nurses. Acquired Immunodeficiency Syndrome known as AIDS is the disease that will lead to death and has no known cure. The human immunodeficiency virus known as HIV is the virus that has no life of its own but just two strands of genetic material (RNA) and a few enzymes. HIV uses human cells to perpetuate itself. After infecting someone, HIV may spend 10 years or more dormant within one's various tissues and organs. But when activated, it turns certain immune cells such as T4 lymphocytes, or "helper T cell" into virus factories, which produce a flurry of virus capsules and die. Then other cells

The World Health Organization (WHO) estimates that as of 1990, 700,000 people worldwide have developed full-blown AIDS and six to eight million have contracted HIV. By the year 2000, estimation is at five to six million will be sick with full-blown AIDS, and the total number that are HIV-positive may approach 20 million. The United States have over 200,000 reported cases of full-blown AIDS and an estimated one million are infected with the HIV virus (Cowley et al, 1990).

What concern does HIV and AIDS have for perioperative nursing? HIV can be contracted through the blood, semen, or vaginal secretions by a break in another’s skin barrier, or across the placental border from mother to infant. The occupational risks of blood-borne diseases arise from employees’ exposure to bloodborne pathogens through puncture wounds, cuts, aerosolization and inhalation, direct mucous membrane contact, along with blood contaminated fomite contact with nonintact skin. The risk of occupationally acquired infection after exposure of surgical personnel
is dependent on three factors: "1) the frequency and types of hazardous exposure encountered, 2) the risk of infection transmission associated with discrete exposures, and 3) the prevalence of blood-borne infections in the surgical patient population" (Gerberding, 1991).

In 1983, Occupational Safety and Health Administration (OSHA) and Center for Disease Control (CDC) set a voluntary risk reduction guidelines for healthcare workers known as Universal Blood and Body Fluid Precautions (UP). These Universal Precautions guidelines articulated certain means for the proper care of sharps and for the use of various barrier equipment and techniques to prevent contamination of skin or mucous membranes. In 1987, OSHA published an Advanced Notice of Rulemaking that enforced existing guidelines for Universal Precautions that everyone is to follow the "widest possible adherence to appropriate precautions as exemplified by the CDC guidelines." OSHA estimates that 5.3 million healthcare and other workers are at high risk from bloodborne pathogens. The operating room is targeted as the area of primary concern (Bauer, 1991).
There are various legal issues involving HIV/AIDS such as confidentiality vs. disclosure, mandatory vs. voluntary testing, and the rights of the patients vs. the rights of the health-care providers. Who has the right to know who is HIV-positive is up to the states, said the Congress in November 1988, but that every case of AIDS must be reported to the state health authorities. In a recent survey, nurses believed that they had a right to know the patient's diagnosis in order to minimize infection and provide adequate care (Collins, 1989). The American Hospital Association guidelines say that HIV testing should be done for these reasons: to make a diagnosis; to comply with a patient's request; to screen blood, organs, or other body substances prior to donation; or to conduct follow-up monitoring after accidental exposure. Routine hospital testing of all patients aren't recommended because the high cost and the high percentages of false positives (Collins, 1989).

The question today is where to draw the line between personal risk and the nurse's responsibility to provide care? According to OSHA, the regulations guarantee the employees a reasonably safe environment
as long as the hospital provides the material for Universal Precautions: gloves, gowns, and masks. Working with HIV/AIDS patients doesn't pose any unreasonable risk for the nurse (Collins, 1989).

**Tomorrow—The Future of Perioperative Nursing**

According to Groah and Howery (1992), there are 25 Predictions for Perioperative Nursing:

**Hospital Reorganization:**
1. Hospitals performing outpatient surgery and same-day surgery will introduce a 'pick up and tuck in' service to compete with other hospitals,
2. Hospitals will introduce focused-care centers.

**Preoperative Teaching:**
3. Routine preoperative teaching will include guided imagery for all patients over age 2.

**Documentation:**
4. All patient care will be recorded at the point of care with pocket-size computers that use bar codes to collect data.

**Trends in Surgery:**
5. More than 60% of all surgeries will be performed as outpatient procedures.
6. Open-heart surgery—including by-pass surgery—will be performed endoscopically.
7. Gynecologic surgery will move into the doctor’s office.
8. Laser liposuction will become the leading cure for obesity.
9. Surgical teams will use less-invasive procedures, which reduce patient trauma and shorten recovery time.

**OR Attire and Setup:**
10. Elaborate scrubbing rituals, gowning, gloving, will soon be things of the past.
11. All ORs will be constructed to provide music and headphones for each patient.
12. Operating room will include VCRs and monitors
as well as closed-circuit TVs, which will be connected to the central nursing desk.
13. Many of our tried-and-trued rituals will be gone.

New OR Technology:
14. All hospitals will have a technology committee to review, approve, and prioritize requests for purchasing highly technical OR equipment.
15. Faster, better sterilization methods will include a hand-held light bar, which will sterilize all instruments and equipment needed for an invasive procedure.
16. Skin and bone will be grown in the laboratory by taking cells from the patient and placing them in a controlled environment that will permit them to reproduce quickly.
17. Other advances in biotechnology, such as the manufacture of living tissues from human cells, will mean more successful organ transplants and implants.
18. Robotic engineering will develop robots that can retract and hold cameras.

Care Delivery Trends:
19. Recovery care centers will spring up across the nation.
20. The trend toward constructing free-standing outpatient centers will be reversed.
21. Surgeons and hospitals, recognizing the need to collaborate rather than compete for outpatient surgery and procedures, will form partnerships and alliances.

Ethical Dilemmas:
22. Ethical dilemmas will be a major concern of perioperative nurses as more intrauterine and organ and tissue transplants are performed.

Administrative Concerns:
23. Direct reimbursement for the RN first assistant will become a reality.
24. Regional planning agencies will once again emerge as major players in the planning of technology and new surgical procedures.
25. Third-party payers will require case cost analysis from surgeons and anesthesiologists by surgical procedure. Staff nurses will monitor the cost of surgical supplies and keep surgeons and
The AORN Policy, Plan and Priority Statement on Nursing Research adopted by the spring Board of Directors meeting held June 29-30, 1988 stated that "the development of a scientific knowledge base for perioperative nursing depends on research and theory development involving the special needs of the surgical patient" (AORN, 1988). The perioperative nurse specializes in providing the direct care to patients during the preoperative, intraoperative, and postoperative phases of surgical intervention that basic life-sustaining needs are of the highest priority based on medical-surgical nursing principles.

Predictions about perioperative nursing by the AORN are that the ongoing professional nursing shortage will affect the supply of perioperative nurses. Perioperative nurses must have an expanding knowledge base to provide comprehensive services to surgical patients, so the development of innovative perioperative nursing education programs will be required. The specialization of perioperative nurses will be geared to specific settings. The AORN will give priority for nursing research designed to generate
knowledge that will enable the perioperative nurse to:

- identify and classify nursing practice phenomena specifically related to perioperative care,
- develop instruments to measure perioperative nursing outcomes,
- identify perioperative nursing practices that will ensure quality care for the surgical patient while maintaining cost-effectiveness,
- identify perioperative nursing practices that will ensure quality care for the surgical patient experiencing complex multisystem health care problems,
- provide effective care in alternative health care delivery systems,
- design educational programs to prepare perioperative nurses for practice in evolving delivery systems, and
- identify perioperative ethical issues develop models for resolution (AORN, 1988).

For perioperative nurses to meet the challenge of the future they must continue with higher education beyond a bachelor's of science degree in nursing. Due to the tremendous changes in health care technology and the increasing complexity of care means that they must become experts in physical and psychosocial assessment to deal with cultural differences and crises. Perioperative nurses need to become economically and politically astute because of the shifting health care economics. Perioperative nursing is critical and challenging, so it is time for perioperative nurses to resume their rightful place with other professional nurses dedicated to the science of nursing (Bailes,
To anticipate the future one must understand the past and the present. The role of the perioperative nurse for the future will be an expert nurse practitioner that will practice in preoperative, intraoperative, and postoperative units. In this role this professional registered nurse will provide preoperative care such as performing patient assessments, obtaining baseline laboratory data, and referring abnormal data to the physician for diagnosis and treatment. As the perioperative nurse practitioner practices intraoperatively, he/she will have clinical responsibility of the first assistant, or will function as the scrub or circulating nurse. Postoperatively, the nurse practitioner will provide routine postoperative care, evaluate patient outcomes, and prior to discharge will provide the necessary education to the patient and the significant others. As the perioperative nurse functions under this role, he/she will be in private practice, while the surgeon will devote time to complex surgical procedures (Groah, 1990). For the perioperative nurse to function in this fashion, he/she will need to be knowledgeable and have
high levels of skills in business administration, nursing research, and computer science (Harvey, 1987). For the high technical environment, the perioperative nurse will be the "high-touch," human element required to maintain a high order of ethics and values advocate excellence in perioperative patient nursing care. The perioperative nurse will institute and maintain standards for quality of practice and for comprehensive, cost-effective care for each patient. Technological advances in the operating room shows that perioperative nurses must recognize these trends to assist in their professional activities. For perioperative nurses to grow they must combine technology and human elements of care because the future of America’s health care lies in the nurses’ hands (Harvey, 1987).

What changes will perioperative nurses face in the year 2000? The outlook for these professional nurses is promising, providing work and assertiveness with leadership. A future development will be individualized continuing education taking place in franchised learning stores or private learning centers being fun and convenient. Another development that
will occur is hospitals will be large, for-profit, multihospital systems with ambulatory surgical centers. The expanded use of computers involving applications and networks among other hospitals and physicians' offices and other countries is another future development. The world's population is expected to be over eight billion by the first third of the 21st century. One's ability to communicate globally and to alter the human habitat is expanding phenomenally, but perioperative nurses must know how to use the scientific and technical revolution to invent and participate in their futures (Davis, 1982).

Conclusion
The role of the perioperative nurse has changed over the years. Perioperative nursing has a yesterday, a today, and a tomorrow. It has evolved and progressed its profession to newer heights through various aspects. There has been the influences of the people and the environment to change the role of perioperative nursing. This nursing specialty has progressed due to its national association, AORN. The future of perioperative nursing will deal with the trends of the
people and the environment. The perioperative nurse practitioner is the future of this profession. Perioperative nursing, questing for excellence and serving as the surgical patient’s advocate, will continue to succeed and to change for the better to be a vital force in the changing health care scene (Groah, 1990).
REFERENCES


AORN. 1988. AORN standards and recommended practices for perioperative nursing. Denver: AORN.


Appendix A

Selected Events in the Evolution of Perioperative Nursing

1820-1910 Florence Nightingale
1827-1912 Joseph Lister
1840s anesthesia (ether, nitrous oxide)
1870s Pasteur proposed bacterial cause for disease
1873 first US schools of nursing on the Nightingale plan
1876 student nurses in the OR; life expectancy 28 to 40 years
1895 x-ray compatibility introduced; kitchen stoves used for sterilization
1897 catgut and silk “aseptic” ligatures available; masks worn in OR; nurses instructed to bathe before surgery
1889 rubber gloves worn by OR nurses; OR nursing identified as an area of specialization
1899 American Hospital Association formed as “Association of Hospital Superintendents”
1900 life expectancy 47 years
1901 blood typing developed allowing successful transfusion
1902 first sterile sutures
1906 Alice Magaw (nurse anesthetist at Mayo Clinic) published report of 14,000 anesthetics given
1909 first university School of Nursing organized (University of Minnesota)
1914-1918 World War I
1914 caps, gowns, gloves, and masks worn by physicians and nurses in the OR
1918 first Army nursing school established
1919 formal education in OR encouraged; NLN prepared first national standard curriculum that included OR nursing
1923 first independent University School of Nursing established (Yale)
1933 first temperature regulated pressure steam sterilizer
1940s antibiotics developed
1941-1945 World War II
1942 suture sterilized in glass tubes and placed in glass jars
1949 ethylene oxide accepted as a sterilizing agent; AORN of New York City formed
1950s shoes changed upon entering OR
1952 US Government Department of Health, Education, and Welfare established (nursing division was responsible for administering nursing student loans, funding nursing education, and funding research)
1953 first AORN national conference
1954 American Nurses Foundation established
1958 sterile foil package of suture introduced; ethyl alcohol or isopropyl alcohol used for skin cleansing (three washes with alcohol and three with tincture of zephrin)
1959 research study done comparing medical versus surgical nursing
1960 AORN’s first journal, OR Nursing, published
1966 Medicare legislation enacted
1969 AORN published definitions and objectives for clinical practice
1970s increased research in areas of perioperative nursing, including role, structured versus unstructured preoperative teaching, anxiety reduction in patients, and stress
1971 AORN’s First Assistant position Journal of Nursing Practice: OR
1973 Medicare/Medicaid regulations required circulating nurse to be an RN
1975 AORN developed Standards of Nursing Practice: OR; Medicare/Medicaid regulations required circulating nurse to be an RN
1978 AORN defined the perioperative nurse
1979 first OR nurses certified
1980s increased ambulatory surgery; increased graduate and postgraduate study in perioperative nursing
1983 AORN’s First Assistant position
1984 life expectancy 76 years
1985 Medicare/Medicaid regulations revised allowing technicians to assist in circulating duties under RN supervision
THE PERIOPERATIVE NURSE AND THE ENVIRONMENT

Figure 1-1. Operating room, Bellevue Hospital, 1870. (The Bettmann Archive.)

Figure 1-2. Operating room. St. Luke's Hospital, New York. 1880. (The Bettmann Archive.)
Figure 1-3. Operating room in Mobile, Alabama, 1900. (The Bettmann Archive.)

Figure 1-4. Professor Charles McBurney (1845-1913) operating in Roosevelt Hospital, New York, 1901. (The Bettmann Archive.)
Most surgeons have individual preferences in the choice of needles, ligatures, etc., and it is the duty of the operating room nurse to acquaint herself with these preferences and to carefully prepare what each requires for his use.

Rubber gloves are tied together in pairs with pieces of cotton bandage on which is marked the wearer's name. A few cots should be included, to be used in case a glove finger becomes punctured.

The operating room nurse is responsible for every detail of the preparation, including the careful instruction of her assistant nurse. If all has been well done, it will prevent awkwardness and delay during the process of the operation.

Leila Clark Woodbury wrote in 1903 that:

Surgical nursing is a subject of such almost unlimited extent that volumes might be written on it. I shall endeavor to give the requirements of a surgical nurse; a brief outline of bacteriology and the relationship this science bears to surgery; the care of the surgical case, and some additional notes of things learned by experience.

One of the areas Woodbury cited was in regard to the patient's mental state:

As a rule, the preparations and, perhaps, the unfamiliar surroundings of a hospital tend to make the patient apprehensive and really in a pitiable frame of mind. A good nurse with tact can, by a few cheerful or encouraging words, divert the thought of the patient, or, at least relieve her fears of the ordeal in store for her.
Figure 2.
Examples of nursing activities in perioperative nursing practice

<table>
<thead>
<tr>
<th>Preoperative Phase</th>
<th>Intraoperative Phase</th>
<th>Postoperative Phase</th>
</tr>
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</table>
| **Preoperative assessment**  
Home/clinic  
1. initiates initial preoperative assessment  
2. plans teaching methods appropriate to patient’s needs  
3. involves family in interview  
Surgical unit  
1. completes preoperative assessment  
2. coordinates patient teaching with other nursing staff  
3. explains phases in perioperative period and expectations  
4. develops a plan of care  
Surgical suite  
1. assesses patient’s level of consciousness  
2. reviews chart  
3. identifies patient  
4. verifies surgical site  
Planning  
1. determines a plan of care  
Psychological support  
1. tells patient what is happening  
2. determines psychological status  
3. gives prior warning of noxious stimuli  
4. communicates patient’s emotional status to other appropriate members of the health care team | **Maintenance of safety**  
1. assures that the sponge, needle, and instrument counts are correct  
2. positions the patient  
   a. functional alignment  
   b. exposure of surgical site  
   c. maintenance of position throughout procedure  
3. applies grounding device to patient  
4. provides physical support  
**Physiological monitoring**  
1. calculates effects on patient of excessive fluid loss  
2. distinguishes normal from abnormal cardiopulmonary data  
3. reports changes in patient’s pulse, respirations, temperature, and blood pressure  
**Psychological monitoring** (prior to induction and if patient conscious)  
1. provides emotional support to patient  
2. stands near/touches patient during procedures/induction  
3. continues to assess patient’s emotional status  
4. communicates patient’s emotional status to other appropriate members of the health care team  
**Nursing management**  
1. provides physical safety for the patient  
2. maintains aseptic, controlled environment  
3. effectively manages human resources | **Communication of intraoperative information**  
1. gives patient’s name  
2. states type of surgery performed  
3. provides contributing intraoperative factors, ie, drain, catheters  
4. states physical limitations  
5. states impairments resulting from surgery  
6. reports patient’s preoperative level of consciousness  
7. communicates necessary equipment needs  
**Postoperative evaluation**  
Recovery area  
1. determines patient’s immediate response to surgical intervention  
Surgical unit  
1. evaluates effectiveness of nursing care in the OR  
2. determines patient’s level of satisfaction with care given during perioperative period  
3. evaluates products used on patient in the OR  
4. determines patient’s psychological status  
5. assists with discharge planning  
Home/clinic  
1. seeks patient’s perception of surgery in terms of the effects of anesthetic agents, impact on body image, distortion, immobilization  
2. determines family’s perceptions of surgery |

Figure 1.