References

ACUTE CARE FOR ELDERS (ACE): A HOLISTIC MODEL FOR GERIATRIC ORTHOPAEDIC NURSING CARE
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The normal aging process brings about inevitable and irreversible changes in physical, psychosocial, and spiritual health. These normal changes are partially responsible for the increased risk of developing health-related problems in the hospitalized elder population. The Acute Care for Elders (ACE) model provides an effective, proactive, inexpensive framework for addressing the complex health needs of older adults. When ACE principles are used for the clinical management of clients with orthopaedic problems, interdisciplinary conferences provide the structure for maintaining the continuity of care. Mobility as well as independent functioning, comfort level, mental status, depression, skin health, nutrition, and response to treatment, are discussed and nurse initiated guidelines for preventive and restorative interventions are implemented. Follow-up phone calls and/or home visits are important indices of thorough discharge planning. The theory of comfort is used to assure that holistic needs are addressed. Nurses who practice the ACE model are excited about demonstrating the highest level of competency in geriatric nursing, whereby patient functioning is maximized, comfort and dignity are promoted, functional decline is prevented, and patients are successfully returned to their homes.

Demographic changes, health promotion initiatives, health care reform trends, and recommendations for health professions' curricula have necessitated the development of a standard of holistic geriatric nursing practice (Mahoney, 1993). A paradigm shift from a dependent model of aging to a model of successful aging has been described by Rowe and Kahn (1998) and is evident in the number of elders who are able to lead active and independent lives. Regaining and maintaining this active and independent lifestyle in spite of acute or chronic illness is the expected outcome and challenge to health care providers.

The United States population of the future will continue to be characterized by an increasing number of older adults. Primary health care providers, including nurses, are key players in preventing illness and disability among elders. The United States Public Health Services' agenda titled Healthy People 2010 (2000) has emphasized the goals of increasing quality and years of healthy life and eliminating health disparities.

The John A. Hartford Institute for Geriatric Nursing (HIGN) reports that the elderly make up over 13% of the United States population. By 2030, persons over age 65 and older will account for over 21% of
the population. This demographic change creates a new challenge of providing high-quality health care for a growing population of elderly citizens and their families (HIGN, 2000).

The Pew Health Professions Commission Healthy America: Practitioners for 2005 (1991) supported the use of interdisciplinary teams to provide care. The Acute Care for Elders (ACE) model is responsive to the current demand for interdisciplinary approaches to care.

When one considers that 60% of hospitalized patients, 80% of home care patients, and 90% of nursing home patients are older than 65 years of age, models of gerontologic nursing care must emphasize patients’ dignity and quality of life, comfort, and prevention of functional disability and decline (HIGN, 2000). This multifaceted approach is entailed in the Acute Care for Elders (ACE) model (Eberle & Besdine, 1992; Kresevic et al., 1998a; Palmer et al., 1994).

Recent studies have demonstrated improved outcomes when elders received ACE care, compared to usual care, in acute settings (Landefeld et al., 1995; Palmer et al., 1994). In spite of these findings, few dramatic changes have been noted in gerontologic nursing practice and nursing service delivery models of care which would prevent functional decline (Kresevic et al., 1998a) and increase comfort and dignity.

**Consider the Following Patient Scenario**

Mary Brown is an independent, 78-year-old, black female who lives with her 48-year-old daughter and three teenage children. They reside in a two-story home in an urban section in the Midwest. Mrs. Brown has a history of diabetes and hypertension and has recently been admitted to the hospital for a fall and subsequent right hip fracture necessitating open reduction and internal fixation (ORIF). She is on a surgical orthopaedic unit, and the nursing staff must plan her care.

What guidelines for mobility, nutrition, rest and recovery, skin care, toileting, wound care, safety, and comfort will be followed when caring for Mrs. Brown? What tools and strategies will be used to assess and screen for depression and delirium? What unit resources are available to promote independent functioning and mobility? How can the environment be adapted to maximize reality orientation, mobility, socialization, nutritional intake, and promote safety? How can nurses enhance Mrs. Brown's comfort to maximize progress in rehabilitation?

Last, what interdisciplinary structure for collaborative practice exists to address the complex physical, psychosocial, and discharge planning needs of this hospitalized elder? Answers to these questions are incorporated in the ACE model combined with Comfort Theory (Kolcaba, 1994, 1995).

The purpose of this article is to help orthopaedic nurses develop an awareness of the ACE model and techniques to achieve desired outcomes in hospitalized elders. The discussion will include essential features of the ACE model for application as well as outcomes research concerning ACE care and caregiver satisfaction. Finally, the process of integrating ACE principles into the standard of care for geriatric orthopaedic patients will be presented.

**The ACE Model**

The idea for specialized acute care for older adults began at University Hospitals of Cleveland (UHC) in Ohio (Palmer et al., 1994). Nurses and physicians observed that many elders admitted for an acute health episode or trauma experienced a decline in function in activities of daily livings (ADL) during hospitalization. Often the dysfunction became so severe that some older adults could no longer be discharged to their homes. With these poor outcomes, older adults feared the health care system and often gave overly optimistic reports of their health states to avoid hospitalization (Eberle & Besdine, 1992).

These observations led to a framework of care based on preventing this dysfunctional syndrome (Palmer et al., 1994). The authors noted that key contributors to dysfunction during hospitalization were additional medications, immobility, fluid and electrolyte imbalance, malnutrition, lack of usual sensory aids, isolation, depression, and confusing environmental stimuli.

Combating these problems did not require additional technology. Rather, conservative medical treatments and a return to fundamental nursing care based on current knowledge about the function
of older adults were advocated. ACE care uses a prepared environment, interdisciplinary team conferences, nurse-initiated guidelines, early home discharge planning, and follow-up contacts (Palmer et al., 1994). As the pilot unit evolved, a unique philosophy of care became apparent.

**Prepared Environment**
Using grant money, a standard medical-surgical unit was remodeled (Palmer et al., 1994). Changes included carpeting, railings along both sides of the hallway, prominent clocks and calendars in patient rooms, visual contrasts to mark boundaries along floors and walls, enhanced lighting, and a large activity room to facilitate family visits and social dining. Nutritious snacks were available 24 hours a day, medications were given at reasonable hours, and interruptions during nighttime sleep were avoided. The goal was to adapt the total environment to meet the needs of older adults, not expect elders to adapt to an alien environment.

**Interdisciplinary Team Conferences**
The interdisciplinary team of primary nurses, a geriatrician, pharmacist, social worker, pastoral care minister, home nurse, dietitian, and physical therapist was coordinated by the ACE clinical nurse specialist (CNS). The geriatrician served as informal consultant to the team and a liaison to the medical staff, but did not take over care of the patient. The focus of daily 5-minute discussions for all ACE patients was a holistic overview including current plan of care, functional status, psychosocial status, comfort needs, and family support (Palmer et al., 1994).

Suggestions from the team were communicated to the attending physician verbally or through use of an interdisciplinary communication sheet (Counsell et al., 1998a). The physician often wrote a supporting order immediately or explained why certain suggestions would not work. The interdisciplinary sheets were not a part of the patient's permanent record (see Figure 1).

**Nurse Initiated Guidelines**
Preventive and restorative nursing guidelines focused on ADL, mobility, toileting, nutrition and hydration, skin care, patient safety, and treatment of delirium or depression (Palmer et al., 1994). Guidelines included goals and suggested nursing interventions that could be individualized for each patient.

Nurses documented patients' progress toward goals daily as well as discussing progress with the interdisciplinary team. For example, specific strategies for depression included assessment for depression or delirium with standard measurement tools, reviewing remediable causes (e.g., medication side effects), encouraging socialization activities, recommending pharmacologic treatment, or consulting with a psychiatric nurse or physician (Kresevic et al., 1998; Palmer et al., 1994). Care techniques were implemented independently by nurses and evaluated during team conferences.

**Home Discharge Planning**
The interdisciplinary team initiated discharge assessments and plans immediately after admission. Plans for special equipment, home adaptations, home nursing or aides, therapies, medication management, meals, and doctors' appointments were high priorities. Family members were consulted and supported in planning for discharge. When patients came from home, the goal was to return home (Palmer et al., 1994).

**Follow-up Contacts**
After discharge, the CNS phoned all ACE patients using the interdisciplinary communication sheet to follow up on comfort needs including functional or psychosocial problems identified during the hospital stay. Communication sheets also were used by the home nurses to carry out the plan of care in the home setting (Kresevic & Holder, 1998). Calls from the CNS were made to physicians when necessary to modify medications or order additional supports. This follow-up process was instrumental in preventing immediate and costly readmissions.

**Philosophy of Care**
The interdisciplinary care provided on the ACE Unit was designed to foster the independent functioning of patients. Key elements of care (i.e., a prepared environment, interdisciplinary collaborative care, multidimensional assessment, nonpharmacologic prescriptions, medical care review, and home planning) were tailored to meet each patient's needs. Goals were to identify elderly
patients at risk for functional decline and to implement interventions that minimize decline.

First, function was highly valued so restraints were gradually eliminated. Tubings were camouflaged, and pain medications were evaluated. Suggestions were given for safer pain control alternatives. Falls were viewed as symptoms and not diseases and when falls did occur, efforts were spent on finding the cause.

Fall assessments were done routinely, and those at high risk for falls were placed near the nurse's station, referred to physical therapy, and ambulated several times a day.

Other methods to promote safety included use of reclining lounge chairs, placing call lights within reach, having family come in more frequently, and using sensory aids. Mobility was facilitated by removal of tethers such as intravenous lines and indwelling catheters as soon as possible. Use of bedside commodes was encouraged instead of bedpans.

Second, a model of collaboration rather than compliance was incorporated. Family members, patients, and the interdisciplinary team together developed an individualized treatment regimen that was valued and "doable." Risk factors for readmission were identified and addressed within the family and home context. Variables such as finances, social support, self-concept, and living arrangements were taken into account.

Third, a holistic perspective was inherent in the ACE model. Through interdisciplinary conferences and follow-up contacts, the team addressed patients' physical, spiritual, social, and environmental needs within the context of home and family using Comfort Theory as a model for care. The CNS, in particular, brought all these parts together in addressing each patient as an indivisible whole.

**Comfort Theory**
Kolcaba's Theory of Comfort Care (1994, 1995) can be used as a guide for holistic care and incorporated into the initial staff education. This theory reminds nurses to identify physical, psychospiritual, social, and environmental comfort needs of their patients.

Once needs are explicated, intervening variables, interventions, and desirable outcomes are developed in collaboration with patient and family. The Theory of Comfort is applied during interdisciplinary team conferences so that holistic thinking is promoted along with ACE principles. It is also applied during bedside nursing to enhance patients' comfort. Because comfort entails a strengthening component, it is directly correlated with patients enhanced progress in rehabilitation (Kolcaba, 1994).

**Research Outcomes**
The pilot study at UHC demonstrated that patients who received the ACE intervention were more functional at discharge than patients discharged from a traditional unit (Landefeld et al., 1995). Because of these promising results, the study was repeated in a larger population in both UHC and in a community hospital setting in Akron, OH (Summa Health System).

The design at Summa consisted of a randomized controlled trial of adults 70 years of age or older in treatment (ACE) or control (usual care) groups. Patients were randomized upon admission to the ACE unit or to usual care on other medical units. All patients in the ACE database were discussed daily (Monday through Friday) by the interdisciplinary team.

Outcomes that were evaluated were the average length of stay and hospital cost. Medicare patients
discharged from the ACE unit had 0.8 days shorter length of stay and cost $1,490 less than those discharged from two other usual care units, a savings of 1.3 million dollars in 9 months.

Other findings demonstrated that functional problems were more often addressed for ACE patients compared to usual care patients. ACE patients received significantly more nursing care plans for mobility (31%:7%; p = 0.001) and continence (8%:2%, p = 0.02), and similarly approached significance for risk for falls (34%:26%, p = .09).

RestRAINTS were less often applied (40%:32%, p = 0.15), with no increase in falls. Although physical therapy consults were more frequent for ACE patients, this did not reach statistical significance (1%:6%, p = 0.02). Discharge planning for ACE patients was initiated earlier (2.7 days:3.6 days, p = 0.001) (Counsell et al., 1996).

Physicians, nurses, and patients were more satisfied with the care they delivered on the ACE unit (Counsell et al., 1997). Physicians more often rated the ACE Unit staff compared to usual care staff as excellent in caring for older patients and meeting the needs of older patients and planning for discharge (see Figures 2 and 3).

Physicians more frequently indicated that on the ACE unit they were more informed of useful information and medications and "never" had difficulty having treatment plans carried out. ACE unit nurses were more satisfied with the care they provided to geriatric patients than their counterparts on other units, and issues about geriatric care were discussed by staff more frequently (Counsell et al., 1997). Patient and family satisfaction was rated 40% for ACE Care vs. 26% for Usual Care (Counsell et al., 1998b)

Integrating ACE Principles and Comfort Theory into the Standard of Care for Geriatric Orthopaedic Patients
Administrative support, including that of the Board of Directors and staff is essential in adopting ACE principles and Comfort Theory into the standard of orthopaedic care for geriatric patients. Leadership within and outside nursing must support and value this change in geriatric nursing practice for changes to be more than temporary.

A practice structure that encourages the use of independent nursing actions, reinforces critical thinking and clinical decision making, and provides educational programs and resources is necessary to raise the "ceiling" of geriatric care from minimum requirements to one that is recognized by consumers as the "gold standard." This gold standard, in turn, will lead to improved outcomes both for the hospital and the patients.

Establishing a partnership with a Geriatric Education Center or other clinical facility that has successfully implemented an ACE unit is a strategy that may assist with the guidance and education when decisions are made to institute a program that improves care for hospitalized elders (HIGN, 2000).

Nurse leaders, including director of nursing, clinical nurse specialist, nurse researcher, patients’ nurse and primary care physician, case manager, as well as all members of the interdisciplinary team, need to be prepared to implement a geriatric care program that ultimately reduces costs associated with functional decline and promotes comfort and dignity.

Staff nurse education is an important activity that must address cognitive concepts, affective content, and include the protocols and guidelines for independent preventive and restorative practices for geriatric syndromes (HIGN, 2000; Palmer et al., 1994).

Some examples of cognitive concepts are cultural influences on aging, sensory changes and communication in the elderly, depression, delirium and dementia, polypharmacy, elder abuse, and teaching and learning for elders. Affective content may include attitudes on aging, reduction in the use of physical restraints, interventions to enhance comfort related to orthopaedic procedures, and ethical issues of geriatric care.

Protocols that will facilitate best practices include assessment of functional status, cognition,
depression, pressure ulcer, nutrition and feeding, sleep and rest, pain, and urinary continence. Fall prevention protocols and interdisciplinary collaboration are of value in developing a team of expert geriatric care providers. Printed resources should be available for the staff.

Adapting the physical environment helps accomplish the goals of the ACE care, and staff should be permitted to participate with decisions as appropriate. Plans to evaluate the impact of change on the patient indicators should be addressed in the initial implementation period.

These indicators may include hospital outcomes such as patient satisfaction, decreased length of stay, reduction in readmission rate, reduction in costs of hospital care for the elder patient, and increased knowledge of staff in effectively treating geriatric syndromes.

Nursing sensitive outcomes such as enhanced comfort, faster healing, increased progress in physical therapy (self-care, functional status, and mobility), and feelings of confidence, determination, and motivation should be measured. Demonstrating improvement in both types of indicators is equally important.

ACE/Comfort Care for Mrs. Brown
In the case of Mrs. Brown, admission to a surgical orthopaedic unit with protocols in place to prevent and manage common geriatric syndromes represents the intent to deliver the highest level of competent nursing care. Independent functioning, comfort, and dignity will be promoted in this interdisciplinary and integrated health care environment designed specifically for the hospitalized elder.

Mobility, nutrition, sleep and rest, skin integrity, safety, pain, and response to treatment will be assessed in an ongoing manner by a team of geriatric care providers. Physical, psychospiritual, social, and environmental comfort needs will be identified and addressed.

The plan of care will be evaluated daily and communicated across all disciplines. The whole patient will be considered as the immediate orthopaedic problem is addressed as well as management of preexisting problems within the context of hospitalization. Any iatrogenic problems can be assessed, prevented, and minimized by the expert geriatric care providers through their education, training, administrative and clinical support.

The physical environment of the unit promotes reality orientation, mobility, ambulation, and safety. Patients' rooms are free of clutter, except for necessary equipment and comforting belongings. Fresh comfort foods and nourishment are available 24 hours a day to encourage eating. Unit-based physical therapy services facilitate early assessment and treatment.

Evidence of incontinence, skin breakdown, confusion, depression, and delirium can be quickly assessed and treatment strategies implemented independently to minimize complications. Spiritual needs, anxiety, educational deficits, financial circumstances, and level of social support are assessed and enhanced where necessary. Multidisciplinary discharge planning goals focus on returning Mrs. Brown to her home.

Summary
Older adults in acute care settings are increasing exponentially as baby boomers age. This phenomenon makes it imperative to prepare future health care providers with essential principles and philosophies of care to decrease the emotional, physical, and financial costs associated with hospitalization (Mahoney, 1993).

Preventing functional decline in acutely ill elders has been the focus of research that supports the development of a holistic, collaborative, and interdisciplinary standard of gerontologic nursing practice (Kresevic et al., 1998; Landefeld et al., 1995; Palmer et al., 1994). These creative, innovative, and proactive strategies demonstrated favorable clinical and financial outcomes (Counsell et al., 1996; Kresevic & Holder, 1998; Landefeld et al., 1995).

The Theory of Comfort (Kolcaba, 1994; 1995) provides a holistic framework for nurses to assure that all comfort needs are addressed. Nursing professionals who work with geriatric orthopaedic clients
and are familiar with the ACE model are well positioned to be the gerontologic acute-care nurse leaders in the next millennium.

**FIGURE 1**
ACE Interdisciplinary Team Communication Sheet

<table>
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<th>Team Suggestion[*]</th>
<th>Physician Response (circle, initial and date)</th>
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* Physician order is needed to implement.

ACE INTERDISCIPLINARY TEAM COMMUNICATION SHEET

Not a permanent part of the medical record

GRAPH: FIGURE 2 Physician Survey (Paired data, n = 92)

GRAPH: FIGURE 3 Physician Survey, Nurse Survey (Registered Nurses: n = 23 ACE, n = 49 Usual Care)

**References**


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**PUBLISHING YOUR RESEARCH RESULTS**

**Taking the Mystery Out of Research**

This article by Panno, Kolcaba, and Holder is a clear illustration of three nurses who implemented their research idea and then followed through by publishing the results. It is important to share your research results with others!

Polit and Hungler have said, "The most brilliant piece of work is of little value to the scientific community unless that work is known" (1991, p. 570).

This sidebar will give you three hints to consider as you are preparing a research paper for publication. Those hints are (1) read author guidelines in journals, (2) write query letters, and (3) get help from mentors with experience in writing scholarly papers.
The first hint is to read the section commonly titled "Author Guidelines" in any journal you are considering for submission of your manuscript. This section appears in almost every journal and is usually available on the journal's Web site. These guidelines are designed to assist authors in the preparation of a successful manuscript (see page 14 of this issue). Other scholarly strategies for preparing a paper for publication are provided in two recent issues of Orthopaedic Nursing (Arslanian, 2000; Rodts, 2000).

Write a query letter to the editor of any journal that might be interested in your manuscript. Wait until you receive a positive response to your query letter before you submit the actual manuscript. The purpose of a query letter is to determine if the editorial needs of the journal match the topic of your paper. This letter should include a brief description of the manuscript including the title, topic, the research question, manuscript length (Under "tools" on most computers you will find a "word count" function), and the number of cited references.

Query letters for the Orthopaedic Nursing journal may be sent by the postal service or by email (onjeditor@aol.com). This journal focuses on orthopaedics but also contains articles on more general nursing research topics such as surgical dressings, pain management, and postoperative urinary retention.

The journal editor will inform you if your topic might be considered. A positive response to the query letter only tells the author that the topic is of interest to the journal editor; it does not assure that the manuscript will be accepted for publication.

It is customary to submit query letters to several journals at the same time. However, the manuscript is submitted to only one journal at a time. If the journal rejects your manuscript, you are free to submit the manuscript to another journal.

3 Finally, it is useful to find mentors who have been successful in publishing and ask them for help in preparing and evaluating your manuscript. Do not expect the mentors to write the paper. These mentors do not have to be nurses.

Having one mentor with writing skills and another one with content expertise is helpful. The grammar expert could be a former English teacher; the content expert could be a clinical specialist (nurse or physician).

Members of the NAON Research Committee members (listed at http://naon.inurse.com/About/Research/commemb.htm) have always been willing to help in the development of manuscripts. Sometimes the mentor becomes a coauthor. You should discuss this possibility early in the mentoring relationship. Expect that the manuscript will experience numerous revisions before it is ready to be submitted. Even after a manuscript is accepted for publication, revisions are common. The individuals who have refereed (reviewed) your submitted manuscript often provide wise advice that must be seriously considered during revision.

It is exciting to see your work in print. But prior to submitting your manuscript, you must have the paper as perfect as possible. We hope the three hints offered above will help you to perfect the manuscript. The publication of the results of your research project is another step along the path to success. Writing for publication is not easy, but the outcome can be very enjoyable. So, remember, you have to finish all the paper work -- publish --before your task is complete. Follow the example set by Panno, Kolcaba, and Holder and share your results with the scientific community. Good luck!

References

