

## Maintaining Functional Ability in the Elderly/Centenarian Population

Barbara Chamberlain, MSN, APRN, BC, CCRN

### Introduction



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Many of you may have seen Willard Scott's segment on NBC's *Today Show* on people who are celebrating their 100th birthday. His segments are appearing in longer time frames because more people in this country are living 100 years and longer. Although people over 100 are considered to be among the oldest old, there are a number of them who still function independently. What do they do that allows them to function in this independent mode?

### Aging Demographics

At the turn of the 20th century, the average lifespan for an individual was 47 years. Today, women can expect to live an average of 84 years and men average of 79 years. The number of people over 85 is expected to increase to 9.6 million in 2030, up from 4.7 million in 2003 (U.S. Department of Health and Human Services, 2004). Thus, we can expect to see more people celebrating their 100th birthdays.

A brief article appeared in the June 10, 2005, issue of *The Week*, a weekly news magazine, about a British couple who was celebrating their 80th wedding anniversary. Percy and Florence Arrowsmith were 105 and 100 years old respectively and had just been certified the world's longest-married couple by the *Guinness Book of World Records*. Shortly after the Arrowsmiths were declared the longest married couple, an article appeared in the July 15, 2005, issue of *The Philadelphia Inquirer* (Marder, 2005) in which another couple, Herb and Magda Brown, also 105 and 100 years old respectively, announced that they had also been married 80 years. I remember thinking that these were wonderful occurrences, especially since both couples were caring for themselves and functioning well.

I volunteer at a local nursing home one Sunday a month and continue to marvel at the functional ability of the residents who are 70, 80, and 90 years old, but I marvel even more at those who are over 100 years old. Every morning, Jane, who was 102 years old in April, gets herself up, dresses, and eats breakfast with minimal assistance. She uses a wheelchair only

when she "feels she needs to move a little faster!" The question then becomes how can faculty incorporate teaching the topic of functional ability maintenance in the elderly/centenarian population into their classes?

### Definitions

According to Venes (1997), *deconditioning* is defined as "a loss of physical fitness due to failure to maintain an optimal level of physical activity or training" (p.542) and according to Graf (2006) *functional decline* is defined as the consequence of deconditioning. Preventing deconditioning and thus functional decline is nothing more than keeping older adult individuals moving and active to the fullest extent possible.

Both the Arrowsmiths and the Browns declared themselves to be avid daily walkers. Magda Brown is up at 6:30 a.m. every day, dresses, and applies her makeup before she wakes her husband. He dresses, and together, they walk to breakfast at their assisted living facility. The Arrowsmiths lived independently and took care of one another until Percy's death in July 2005. And Jane walks throughout the halls of the nursing home unless she has to be somewhere in a hurry! All these individuals avoided deconditioning and functional decline because of their activity levels.

Nursing students as well as health care providers (HCP) need to be taught and appreciate the hazards of immobility that can cause a "cascade to dependency" in the older adult population (Simonsick, 2005 [page number for direct quote]). Most HCPs are taught that bedrest and immobility can lead to pressure ulcers, but in older adults, there are other changes that can occur with immobility and lead to decreased function. These include decreased ventilation, decreased sensation, decreased bone density, and fragile skin (Graf, 2006). Movement and activity are the only ways to prevent these complications from occurring. A review of the body systems and ways to maintain function will be presented.

### Neurological System

As one ages, there is a normal loss of brain volume and weight, cerebral blood flow decreases, and there is a loss of functioning neurons. These normal changes, coupled with cognitive impairment in the elderly, have been shown to decrease the elder's activity level and contribute to the inability to perform activities of daily living (ADLs); this risk increases if the older adult is hospitalized. To enhance cognitive ability and maintain functional ability as one ages, one can perform memory activities, such as naming the states and their capitals, singing old songs, reading newspapers and magazines, completing crossword puzzles, playing cards or the piano, and reviewing old photographs and naming the individuals in the pictures. Taking a class in a topic of interest is another way to increase brain functioning and maintain cognitive ability. Older adults can con-

tinue to learn but do so at a slower pace, and activities such as these can keep the brain active and sharp.

### **Cardiovascular System**

When an elderly individual is bedridden and in a supine position, the blood volume can decrease by as much as 500 ml within 24 to 48 hours, thus leading to a decreased cardiac output and poor perfusion. Other problems that may develop from immobility include dehydration, dysrhythmias, mental status changes, and blood clots (Graf, 2006). If feasible, HCPs should move the older adult out of bed minimally into a chair. If the individual can walk, then walking "so many feet down the hall twice a day" should be incorporated into the care plan. This must be completed and documented twice a day because older adults can lose functional ability to walk and take care of themselves even when left in a chair.

### **Pulmonary System**

Elders are prone to normal respiratory changes particularly after age 80; therefore, it is imperative to continually assess their pulmonary status. When one lies in bed, chest expansion is reduced and secretions pool, resulting in acid-base imbalances and decreased oxygen tension. The elderly person with respiratory problems should not be lying in bed unless it is absolutely necessary. However, when in bed, the individual should be seated with the head of the bed up, minimally in a semi-Fowler's position, and be allowed to move to the extent possible. This prevents the development of nosocomial pneumonia and further prevents secretions from plugging the airway. Restraints should be avoided at all costs; and alternatives should be considered as primary interventions. Encouraging movement is the best way to avoid these complications.

### **Gastrointestinal System**

Normal aging changes in the gastrointestinal system can cause problems with secretion, absorption, and motility. Constant sitting in a chair or in bed can further reduce the functioning of the gastrointestinal system and contribute to a myriad of other problems. If left to wait for someone to feed them, older adults may not be fed and will become constipated since peristaltic movement decreases. Functional ability to feed oneself should be encouraged, even if special utensils are required from occupational therapy, followed by activity to promote peristaltic movement.

### **Sensory System**

To help maintain functional ability, hearing aids and eye-glasses need to be within reach of the individual. The older adult individual's routine may include reading the newspaper every day; however, this cannot be accomplished without glasses. If glasses are not nearby, this could lead to a functional loss of sensory function. If glasses are unavailable, try alternatives, such as page magnifiers or large print reading material.

If an older adult cannot hear, a demonstration may help maintain and/or improve functional ability. Remember to speak slowly while facing the individual because the goal is to encourage mobility and activity, not finish an activity in record-breaking time.

### **Genitourinary**

Urinary function decreases by 50% by age 80, but even at this, urinary incontinence is not a normal aging change. Older adults should void every 2 to 3 hours during the day and once at night. This is one time that reclining actually improves

function because urine output increases in the supine position since circulation to the kidneys improves. Keeping older adults hydrated and active will also improve genitourinary function.

### **Musculoskeletal**

Changes in the musculoskeletal system can result in diminished muscle strength, decreased reaction time, decreased speed, and joint mobility discomfort. To keep joints lubricated, prevent arthritis, and maintain function, joints and muscles need to be worked. Walking, as mentioned earlier, is an excellent activity. But so are chair aerobics in which older adults can exercise the upper and lower body from a seated position. This position still provides the activity needed to maintain function. These exercises also strengthen the skeleton helping to build bone mass.

### **Whose Responsibility Is It?**

Whose responsibility is it to maintain function in older adults to the fullest extent possible? Promoting the activity and function of the centenarian/elder is a responsibility that belongs to all disciplines, and as nurse educators, we must teach this to our nursing students. They need to understand normal changes in the elderly, problems that can develop when functional ability is lost, and where to find the other disciplines that will promote a healthy outcome for our elderly population. After all, we all hope to be there someday!

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## **NSNA Sails for a Successful 54th Annual Convention with 3,500 Attendees**

Over 3,500 participants attended NSNA's 54th Annual Convention in Baltimore, MD, at the Baltimore Convention Center. The Convention brought together students, faculty, and nursing leaders from across the country to network, learn, and discuss today's pressing issues and trends. The convention theme, "Setting Sail for a World of Wellness," was emphasized repeatedly throughout the event, underlining the importance of self-care in effective nursing practice and patient advocacy. The program schedule was packed with educational sessions for students and faculty, included an Awards Ceremony to celebrate the achievements of scholarship recipients and NSNA contest winners, and also featured a Harbor Auction, First Night Party, and 250 exhibitors.

## Opening Ceremony and Keynote Address

"Nurses have the same duty to self as to others," emphasized Barbara Dossey, PhD, RN, FAAN, Director, Holistic Nursing Consultants, as she kicked off the convention during the Opening Ceremony.

Throughout her remarks, Dossey encouraged her audience to achieve healing in themselves and their environment, noting that "health is the highway to world peace." She also noted that the nursing profession provides its members with endless possibilities: "The beauty of nursing is that nurses can stay for years in one place and continue to reinvent themselves."

The Opening Ceremony also featured official greetings given by Dr. Elaine Tagliareni, president-elect of the National League for Nursing, and Barbara Blakeney, president of the American Nurses Association.

"It's good to look out at you and see your enthusiasm, energy, passion, and commitment," said Blakeney. "Now hurry up and graduate because we need you!"

## Election Results – 2006-2007 Board of Elections

The following officers were installed at the close of the House of Delegates on Saturday, April 8, 2006:

**President:** Yvette S. Thomas, Seton Hall University, East Orange, NJ.

**Vice-President:** Todd Uhlman, University of North Florida, Jacksonville, FL.

**Secretary/Treasurer:** Emily Ann Raynor, University of South Carolina, Aiken, SC.

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**Ex-officio and Chair, Council of State Presidents Planning Committee:** Jordan Stoner, University of South Carolina, Columbia, SC.

## 2006-2007 Nominating and Elections Committee

**Chair:** Carla P. Walker, The Medical College of Georgia-Athens, Athens, GA.

**Members:** Mel Lowden, New York University; New York, NY; Kenya D. Haney, St. Louis Community College, at Florissant Valley, St. Louis, MO; Peter F. Molina, Mesa Community College-Boswell, Sun City, AZ.

## Resolutions Adopted

The House of Delegates passed the following resolutions in support of:

- Increased advocacy for improved preceptor programs to create a robust workforce environment for the nursing profession.
- Professional workplace culture and decreasing horizontal violence.

- Revision of the current blood donation policy that imposes a lifetime deferral on any man who has had sex with another man (MSM) since 1977.
- Integrating the "Handle With Care" Safe Patient Lifting Campaign into nursing curricula.
- Increased awareness and education regarding prevention of recreational water illnesses.
- Establishment of protocols for disaster relief guiding the scope of practice for student nurses and the collection and distribution of donations.
- Expanding perioperative nursing experiences in undergraduate nursing curricula.
- Education about and proper disposal of pharmaceuticals and personal care products (PPCPs).
- Tobacco-free nurses, nursing students, and medical campuses;
- Increased awareness regarding minimizing exposure to medically generated toxins.
- Education and awareness to reduce the risk of injury resulting from falls in health care settings in the United States.
- Increased awareness and education regarding gestational diabetes.
- Consistent mandatory minimum sentencing for child sex offenders.
- Encouraging greater attention in nursing curricula to research supporting the safety of planned out-of-hospital births for low-risk women attended by licensed maternity care professionals.
- WiseWoman Expansion Act to provide low-income, uninsured women with health services to prevent cardiovascular disease.
- Increased awareness regarding the need for research and improved treatments for children with depression.

## Endnote Address

Brigadier General (retired) William T. Bester provided a stirring conclusion to the convention, combining both moving and funny anecdotes to emphasize the importance of nurses to the nation's health care.

## Foundation of the NSNA Awards Ceremony

The FNSNA Awards Ceremony on Thursday, April 6, lauded the accomplishments of scholarship recipients and the winners of NSNA's many contests.

## Fundraising for Scholarships

The House of Delegates Challenge and the Harbor Auction raised several thousand dollars to benefit the Foundation of the NSNA. On Saturday, April 8, the House of Delegates pledged over \$12,000 to benefit the Foundation of the NSNA Endowed Scholarship Campaign. The Harbor Auction raised \$7,360 and inspired several heated bidding wars in the process.

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## The John A. Hartford Foundation and Atlantic Philanthropies Award More than \$2.3 Million to Nurse Scholars and Fellows

The John A. Hartford Foundation and Atlantic Philanthropies are pleased to announce the 2006 cohort of Nurse Scholars and Fellows in the Building Academic Geriatric Nursing Capacity program (BAGNC). The Nurse Fellows are the first-ever recipients to receive funding under the newly-named Dr. Claire M Fagin Fellowship. Dr. Claire M. Fagin is a leader in geriatric nursing who stepped down last year as BAGNC's founding director.

Nurse Fellows receive \$120,000, and Nurse Scholars receive up to \$100,000; this funding enables them to commit full time to the program. The Scholars and Fellows were chosen through a national competition as part of the John A. Hartford Foundation's initiative aimed at building academic geriatric nursing capacity in the field.

Since 2004, the Atlantic Philanthropies has provided generous support to the BAGNC program, allowing increased funding for postdoctoral fellowships. A third partner, The Mayday Fund, contributes additional funds – \$5,000 per awardee – for selected candidates whose research focus includes the study of pain in the elderly.

Since its creation in 2000, the BAGNC program has funded 59 pre-doctoral scholars, 43 post-doctoral fellows, and 4 NIBAs, representing 39 Schools of Nursing in every geographic region. To date, the Hartford Foundation has invested more than \$15 million in scholarships for nurses through BAGNC.

Data on the first three cohorts of BAGNC award recipients show the tremendous productivity and leadership of these scholars and fellows. These alumni have:

- Produced 197 papers.
- Given 286 presentations.
- Taught or supervised students in more than 115 courses.
- Applied for and received more than \$3.77 million in funding.

The Building Academic Geriatric Nursing Capacity program aims to reduce the disparity between society's need for a health system that can respond competently to increasing numbers of elders and the relatively small nursing workforce currently prepared to meet those demands.

The John A. Hartford Foundation Trustees' recognition of the centrality of nurses to the care of older adults has led to a broadened effort, focusing on increasing academic capacity to enhance training, research, and practice. Beginning in 1996 with the funding of the John A. Hartford Foundation Institute for Geriatric Nursing, the Foundation has committed more than \$60 million dollars to prepare gerontology nurse educators, researchers, practitioners, and curriculum.

The BAGNC initiative works with five Centers of Geriatric Nursing Excellence and seven additional university-based investment projects, and provides scholarships to build capacity in geriatric nursing education, leadership, research, and best practice models.

For further information regarding the Building Academic Geriatric Nursing Capacity Program, visit [www.geriatricnursing.org](http://www.geriatricnursing.org), or contact Program Director Patricia D. Archbold, DNSc, RN, FAAN, at (202) 682-2850 or [parchbold@aannet.org](mailto:parchbold@aannet.org)