

Respiratory Nursing

Author Bios

Michele Geiger-Bronsky, MSN, RN APNP, FNP-C has been an expert in the field of respiratory nursing for over two decades and was one of the first respiratory nurses to be recognized as a Fellow in the American Association of Cardiovascular and Pulmonary Rehabilitation. As the first Respiratory Clinical Nurse Specialist at Long Beach Memorial Medical Center in Long Beach, California, Michele developed a Respiratory Nursing Unit, an outpatient support group, and a comprehensive multidisciplinary Pulmonary Rehabilitation Program, all of which resulted in demonstrable differences in the lives of clients and staff and directly enhanced fiscal outcomes for the organization. Michele is a founding member of RNS, a past board member, and developed and served as the Editor of *Perspectives in Respiratory Nursing*. Following relocation to her home state of Wisconsin she now spends her time as the Executive Director and Nurse Practitioner of the Wellness Center of Door County and the Founder/President of the Door County Scottie Rally. She has been recognized as a 2008 champion of women's health by the Wisconsin Women's Health Foundation.

Donna J. Wilson, MSN, RN, RRT, is a clinical nurse specialist (CNS) and personal trainer who has been affiliated with the Integrative Medicine Service at Memorial Sloan-Kettering Cancer Center in New York City since 2000. During the past 30 years, she has gained extensive experience working with patients suffering from both acute and chronic respiratory diseases. Donna's post-graduate experience includes a MSN, awarded in 1991 from the Massachusetts General Hospital (MGH) Institute of Health Professions. The Aerobics and Fitness Association of America certified her as a personal trainer in May 2000 and, more recently, she was certified as a trainer for the T-Tapp Exercise Program. Her professional experience includes working at MGH for 17 years as a CNS, as the coordinator of the Respiratory Care Consultation Service in the Department of Anesthesia, and as the Lung Transplant Program nurse coordinator in the Thoracic Surgical Service.

In 1992, Donna joined the nursing staff at Memorial Sloan-Kettering Cancer Center as a pulmonary/thoracic CNS. Presently she creates and conducts exercise programs for a variety of individuals, many of whom are patients who are involved in ongoing cancer treatment programs. Activities include chair aerobics, step class, "Strong Bones for Osteoporosis," focused fitness classes for women, aerobics classes, and individual/group personal training. Her goals are to help patients rebuild strength, restore flexibility, achieve better balance, and decrease fatigue and breathlessness. To Donna, nursing is a means of giving of herself to the multiple roles serving as both a patient and family advocate. She also serves as collaborator, working with multiple health care teams and as a nursing care assessor to assist patients in coping with changes in their functional capacities in the course of daily activities. Donna has been involved in multiple national organizations focusing on respiratory diseases and is past president and board member of the Respiratory Nursing Society.

Respiratory Nursing

A Core Curriculum

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Donna J. Wilson, MSN, RN, RRT
Editors



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Preface

It would not be odd if this introduction were to be started as “Once upon a Time” since it seems that is just how all great things begin—either a group or an individual comes up with an idea and things evolve from there. In the 1990s there was an intense interest in the concept of certification for Respiratory Nursing practice. It was clear to many of our respiratory nursing colleagues, who belonged to either the Respiratory Nursing Society (RNS) and/or the American Thoracic Society (ATS), that a CORE Curriculum needed to be established before certification could be considered.

After years of editing *Perspectives in Respiratory Nursing* for RNS, I agreed in 1999 to serve as the Editor of the *CORE Curriculum for Respiratory Nursing*. Following a tentative chapter outline including a framework for content, input from leaders in respiratory nursing and other disciplines was sought from across the United States. An assimilation of this feedback resulted in the framework for this 1st Edition of the *CORE Curriculum in Respiratory Nursing*.

Since the original plan called for nearly 50 chapters it was imperative that the CORE be divided into four Sections, each led by respiratory nursing experts who oversaw the editing and adherence to deadlines for purposes of the publication. At times the Section Editors became mentors and support lifelines for the authors. Every chapter was blindly peer reviewed by at least three persons; two of whom were content experts in the specific scope of the chapter. As time wore on additional revisions by authors were needed to ensure timeliness and accurate clinical content of the CORE.

Despite the time that has evolved, one thing has remained constant: Chapter after chapter continued to impress editorial staff; this is a work of which RNS deserves to be proud. In particular the authors deserve to be recognized and feel extremely proud of their contributions to the specialty of respiratory nursing.

No project can be completed independently and the *CORE Curriculum for Respiratory Nursing* is one that took an enormous amount of people, patience, and perseverance. Nearly a decade after its beginnings, this project has been brought to fruition with a total of 45 chapters. Many of our authors, as well as reviewers, have had life changing events—births of babies, job/career changes, relocations, completion of degrees and loss of family/friends that we've loved. It is important for readers to understand that the CORE Curriculum process has been a labor of love and *commitment* to the expertise that nurses need to possess and demonstrate when caring for persons with respiratory disease or compromised function. Every reviewer, editor and in particular author contributed countless volunteer hours in the creation of this resource. To each of you and your families, we say thank you.

When we began the CORE for Respiratory Nursing, its intent was to:

- Provide the basis and direction for clinicians who provide direct clinical care across all settings
- Create a foundation for development of staff education and curricula at the undergraduate and graduate level
- Serve as a resource by which respiratory nursing practice could be evaluated and
- Provide the basis for the development of a certification process for Respiratory Nursing

I believe that this CORE has met those objectives that RNS envisioned a decade ago.

For those readers who may find gaps in content or chapter inclusion—this is an opportunity for you to become involved in revisions of this important work. We encourage you to submit your ideas and willingness to contribute to the RNS office for future consideration!

Michele Geiger-Bronsky

Acknowledgment

On a personal note I want to extend a huge appreciation to the love of my life, Tom Bronsky, who always seems to understand and knows what support looks like, and to each of the section editors: Kathi Ellstrom, Donna Wilson, Anne Perry, and Kathleen Lindell. Each of these women have had multiple personal and professional demands on them during this process and deserve to be recognized for *their significant* contributions to the practice of respiratory nursing. And lastly, Donna Wilson deserves the highest recognition for bringing the CORE to fruition at a time when I could no longer lead the way. Donna took up the baton and finished the race. She will have my unending support and respect for ensuring the CORE's completion and publication.

Michele Geiger-Bronsky

I would like to thank my colleague, friend, and soulmate, my husband Dr. Roger S. Wilson, for his love and support.

Donna J. Wilson

The Specialty of Respiratory Nursing



Evolution of Respiratory Health Care

1

Janet Larson and Suzanne C. Lareau

- I. Respiratory medicine/health care
 - A. In the first half of the 20th century respiratory clinicians focused on the treatment and prevention of tuberculosis. This rather narrow focus was gradually broadened to include all types of respiratory-related conditions.
 - B. In the last 25 years of the 20th century the respiratory specialization expanded to include a major focus on critical care and the care of people on mechanical ventilation.
 - C. Respiratory specialization now spans a wide range of conditions that include the treatment and/or prevention of lung infections, restrictive and obstructive lung disease, respiratory and ventilatory failure, lung transplant, and pulmonary rehabilitation.
- II. Specialty of respiratory nursing
 - A. The specialty of respiratory nursing began to emerge in the 1940s when nurses received specialized education in the care of people with tuberculosis. The earliest education programs were funded by the American Lung Association (ALA) and its predecessors the National Tuberculosis Association (NTA) and the National Tuberculosis & Respiratory Disease Association (NTRDA) (Lareau et al, 1998).
 - B. Growth of the specialty of respiratory nursing was fostered in the 1970s by the establishment of the American Thoracic Society (ATS) subsection on nursing and its educational programming at the annual ATS meeting.
 1. The current ATS Nursing Assembly is comprised of nursing researchers, clinicians, and educators who focus on advancing the science related to promoting the health and function of pulmonary patients.
 - C. The advent of the clinical nurse specialist (CNS) role in master's programs in the 1970s contributed to developing the sub-specialty of respiratory nursing.

- D. The organization structure for respiratory nursing matured in the 1990s with the founding of the Respiratory Nursing Society (RNS).
 - 1. The majority of RNS members focus on clinical practice promoting high quality nursing care to patients and families with pulmonary diseases. In addition, a major emphasis of RNS is delivering patient and professional education.
 - 2. Respiratory Nursing Society (RNS) standards and scope of practice
 - a. The respiratory nurse collects comprehensive data pertinent to the patient's health or the situation, analyzes the assessment data to determine the diagnosis or issues of the respiratory patient, identifies expected outcomes for an individualized patient plan, develops and prescribes a plan, implements the plan, and coordinates the care delivery.
 - b. The respiratory nurse employs strategies to promote respiratory health and a safe environment including clean air to breathe.
 - c. The advanced practice registered nurse provides consultation to influence the identified plan and enhance the abilities of others to effect change. The advanced practice registered nurse also uses prescriptive authority, procedures, referrals, treatments, and therapies within state and federal laws and regulations.
 - d. The Respiratory Nursing Society and American Nurses Association Standards of Care in its completed format are published on the RNS Web site: <http://www.respiratorynursingsociety.org>
- III. Interdisciplinary approach to respiratory health care
 - A. In the last half of the 20th century respiratory health care became very specialized in response to the growing body of knowledge about respiratory health and disease.
 - B. The increasing complexity of clinical care required collaboration with professionals from multiple disciplines.
 - C. Currently the care of people with actual or potential respiratory health problems is routinely administered by a multidisciplinary team.
 - 1. The multidisciplinary team includes physician, nurse, respiratory therapist, dietician, pharmacist, physical therapist, occupational therapist, and social worker.
 - 2. Each discipline brings a unique perspective and expertise to the team.

REFERENCE

- Lareau, S., Breslin, E., Hansen, M., McDonald, G., Traver, G., & Wewers, M. E. (1998). *History of the American thoracic society assembly on nursing 1944 to 1998*. New York: American Lung Association.

Opportunities for Promoting Respiratory Health Across Clinical Settings

2

Linda J. Schuyler

INTRODUCTION

Prevention programs can be provided to individuals regardless of their state of health. Virtually all practice settings provide opportunities for educating individuals about respiratory health.

- I. Primary, secondary, and tertiary prevention in respiratory nursing practice
 - A. Levels of prevention
 1. “Health promotion is the science and art of helping people change their lifestyle to move toward a state of optimum health” (O’Donnell, 1989, p. 5).
 2. Pender defines two types of activities for improving and maintaining health status:
 - a. Health promotion that is “motivated by the desire to increase well being and actualize human health potential” and
 - b. Health protection that is “motivated by a desire to actively avoid illness, detect it early or maintain functioning within the constraints of illness” (Pender, 1996, p. 7).
 3. Leavell and Clark define three levels of prevention (1965).
 - a. Primary prevention, which has two components: first, activities not directed at any specific disease or condition but at promoting general good health, and second, activities directed at the prevention of specific disorders.

- b. Primary prevention activities include
 - i. Health education in the areas of nutrition, growth, and development, sex education, genetic, and environmental factors and preventive health evaluations.
 - ii. Specific protection activities that include immunizations, protection from occupational and environmental exposures, i.e., carcinogens and allergens, and accident prevention.
 - c. Secondary prevention involves early diagnosis and treatment of disease in order to prevent complications and limit disability.
 - d. Secondary prevention activities include
 - i. Case finding and screening of communities and individuals
 - ii. Adequate treatment to prevent complications and limit disability
 - e. Tertiary prevention is the prevention of complete disability after a disease process becomes stable.
 - f. Tertiary prevention activities include provision of adequate rehabilitation programs enabling individuals to maximize the use of their remaining capabilities, and public education about individuals with disabilities.
- B. Prevention programs: Tobacco avoidance (Centers for Disease Control [CDC], 1994; U.S. Department of Health and Human Services [HHS], 1994)
- 1. Tobacco use is the chief preventable cause of premature death and disability in the United States. Tobacco use includes cigarettes, cigars, and smokeless tobacco.
 - 2. Almost all tobacco users start before they graduate from high school.
 - 3. Starting tobacco use at a younger age results in longer and heavier use of tobacco, with the attendant health risks: lung cancer, chronic obstructive pulmonary disease (COPD), and cardiovascular disease.
 - 4. Adolescents who use tobacco may reduce their rate of lung growth and impede the maximum level of lung function they can achieve.
 - 5. Adolescent tobacco users experience more of the following symptoms than their non-smoking peers: cough, shortness of breath, wheezing, and phlegm production.
 - 6. Adolescent tobacco use is associated with increased risk of alcohol and other drug abuse and other high-risk behaviors such as high-risk sexual practices, fighting, and use of weapons.
 - 7. Multiple risk factors influence tobacco use behavior in adolescents
 - a. Low socioeconomic status
 - b. Availability of tobacco products
 - c. Peer pressure
 - d. Lack of parental support
 - e. Low academic achievement/involvement
 - f. Low self esteem
 - g. Lack of ability to refuse/resist offers to use tobacco
 - h. Lack of understanding of the addiction potential and long term health effects of nicotine

8. Key elements of tobacco use prevention programs for adolescents include
 - a. School-based prevention programs that are a part of a comprehensive school education program and that also involve parents, community, and the media.
 - b. Enforcement of the ban on sale of tobacco products to minors.
 - c. Increasing the price of tobacco products.
 - d. Recognizing that nicotine addiction is as difficult to overcome for adolescents as it is for adults and that recruiting and retaining adolescents for smoking cessation programs is also difficult.
9. Recommendations from the CDC Guidelines for School Health Programs to Prevent Tobacco Use and Addiction (CDC, 1994, p. 7)
 - a. "Develop and enforce a school policy on tobacco use"
 - b. "Provide instruction about the short- and long-term negative physiologic and social consequences of tobacco use, social influences of tobacco use, peer norms regarding tobacco use and refusal skills"
 - c. "Provide tobacco-use prevention education in kindergarten through 12th grade; this instruction should be especially intensive in junior high or middle school and should be reinforced in high school"
 - d. "Provide program-specific training for teachers"
 - e. "Involve parents or families in support of school-based programs to prevent tobacco use"
 - f. "Support cessation efforts among students and all school staff who use tobacco"
 - g. "Assess the tobacco-use prevention program at regular intervals"
- C. Women and smoking (HHS, 2001)
 1. Cigarette smoking became prevalent among men sooner than among women, but since the mid-1980s the prevalence has been about the same.
 2. Increase in the quantity and duration of smoking among women had resulted in a corresponding increase in the number of smoking-related deaths in women.
 3. Lung cancer has surpassed breast cancer as the leading cause of cancer-related deaths in women.
 4. Cardiovascular disease risk is substantially increased for women who smoke. Cardiovascular disease includes: coronary heart disease, stroke, peripheral vascular disease, and abdominal aortic aneurysm. Oral contraceptives increase the risk of coronary heart disease.
 5. Smoking during pregnancy increases the risk of
 - a. Pregnancy complications such as premature rupture of membranes, placenta previa, abruptio placentae, and pre-term delivery
 - b. Stillbirth, neonatal death, and SIDS
 - c. Low birth weight
 6. Postmenopausal women who smoke may have lower bone density than non-smokers and some increase risk for hip fracture.

7. In general, studies have not shown differences in the effectiveness of smoking cessation programs between men and women or between white women and non-white women.
 8. Factors that influence women's decisions to smoke or not smoke include: pregnancy, fear of weight gain, depression, and social support needs.
 9. More women stop smoking during pregnancy than at any other time. Two-thirds of those who quit will resume smoking within 1 year.
- D. Involuntary smoking (HHS, 1986)
1. Involuntary smoking (also termed *passive smoking* or *exposure to environmental tobacco smoke*) is a nonsmoker's unavoidable exposure to the tobacco smoke of others.
 2. Environmental tobacco smoke comes from the end of a burning cigarette as well as from a smoker's exhalation.
 3. The Report of the Surgeon General on the Health Consequences of Involuntary Smoking concludes
 - a. "Involuntary smoking is a cause of disease, including lung cancer, in healthy non-smokers."
 - b. "The children of parents who smoke, compared with the children on non-smoking parents have an increased frequency of respiratory infections, increased respiratory symptoms and slightly smaller rates of increase in lung function as the lung matures.
 - c. "The simple separation of smokers and nonsmokers within the same air space may reduce, but does not eliminate, the exposure of nonsmokers to environmental tobacco smoke" (HHS 1986, p. 7).
 4. Steps to reduce exposure to environmental tobacco smoke include (American Lung Association [ALA], 2007)
 - a. Quit smoking
 - b. Eliminate exposure by asking people not to smoke in your home or your car
 - c. Make sure that your child's school and day care are smoke free
 - d. Eat in a smoke-free environment
 - e. Seek a smoke-free workplace
 - f. Support legislation that promotes smoke-free environments
 - i. Smoking cessation
 - ii. Environmental exposures/air quality
 - iii. Occupational exposures
 - iv. Immunizations
 - v. Rehabilitation
- E. Framework for prevention programs
1. Healthy People 2010
 2. Models for health behavior change
 3. Program development
 4. Resources
- II. Respiratory health care settings
- A. Factors driving prevention programs
1. Health care resources

- B. Practice settings
 - 1. Ambulatory/outpatient care
 - a. Primary care
 - b. Specialty care
 - c. Community health care
 - i. Home care
 - ii. Hospice/palliative care
 - iii. Occupational health
 - iv. Parish nursing
 - v. School nursing
 - 2. Acute/in-patient care
 - a. Emergency department
 - b. Acute care hospital
 - c. Critical care units
 - d. Skilled nursing facility/extended care
 - 3. Public and private education
 - a. Child care
 - b. Elementary education
 - c. Secondary education

REFERENCES

- American Lung Association. (2007, June). American lung association second-hand smoke fact sheet. Retrieved from <http://www.lungusa.org>
- Centers for Disease Control and Prevention. (1994). Guidelines for school health programs to prevent tobacco use and addiction. *MMWR* 1994;43 (No. RR-2).
- Leavell, H. R., & Clark, E. G. (1965). *Preventive medicine for the doctor in his community: An epidemiological approach* (3rd ed., pp. 19–28). New York: McGraw Hill.
- O'Donnell, M. P. (1989). Definition of health promotion: Part III: Expanding the definition. *American Journal of Health Promotion*, 3(3), 5.
- Pender, N. (1996). *Health promotion in nursing practice* (3rd ed.). Stamford, CT: Appleton & Lange.
- U.S. Department of Health and Human Services (HHS). (1986). *The health consequences of involuntary smoking: A report of the surgeon general*. Rockville, MD: Public Health Service, Office on Smoking and Health.
- U.S. Department of Health and Human Services (HHS). (1994). *Preventing tobacco use among young people: A report of the surgeon general*. Atlanta, GA: Public Health Service, Office on Smoking and Health.
- U.S. Department of Health and Human Services (HHS). (2001). *Women and smoking: A report of the surgeon general: Executive summary*. Public Health Service, Office of the Surgeon General, Washington, DC: U.S. Government Printing Office.