CHAPTER 1

Overview of Rehabilitation

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LEARNING OBJECTIVES

At the end of this chapter, the reader will be able to

- Define rehabilitation.
- State three common goals of rehabilitation across disciplines.
- Describe significant historical events in the development of rehabilitation as a specialty in nursing and medicine.
- Discuss major concepts of rehabilitation.
- Recognize the scope of practice of the rehabilitation nurse.
- Identify 16 basic competencies of rehabilitation nursing.

KEY CONCEPTS AND TERMS

Adaptation
Association of Rehabilitation Nurses (ARN)
Certification
Certified registered rehabilitation nurse (CRRN)
Chronicity
Competencies
Holistic care
Interdisciplinary team
Quality of life
Rehabilitation
Self-care

This is an exciting time to be in the specialty of **rehabilitation** and rehabilitation nursing. Many new developments within the discipline make this a challenging and desirable field in which to work. When one considers the present conflicts continuing in Iraq and Afghanistan coupled with the existing number of aging veterans, the area of rehabilitation should be booming, and indeed there are never-before-seen injuries and effects of war to challenge the **interdisciplinary team**. Polytrauma has emerged as a significant specialty area within rehabilitation, and the benefits of these services extend to the civilian population as well. Technological advances in prosthetics for those with multiple limb amputations continue to push the limits of current knowledge in biomedical engineering. The devastating effects of catastrophic world events such as the 2010 earthquake in Haiti, the tsunami in Indonesia, or Hurricane Katrina in New Orleans suggest that there is a worldwide need for rehabilitation to help those with life-changing injuries to learn to live again. There are also the individuals seen daily in healthcare facilities with stroke, brain injury, spinal cord injury, neurological disorders, and chronic illnesses from a variety of causes who need rehabilitative care. The purpose of this text is to provide the reader with a solid foundational background about rehabilitation and to set forth the necessary knowledge to meet basic **competencies** in rehabilitation nursing.

PHILOSOPHY

Rehabilitation is founded on the premise that all individuals have inherent worth and have the right to be experts in their own health care (Gender, 1998). Each person is viewed as a unique, comprehensive, holistic being. Rehabilitation nurses, and the rest of the team, are responsible for providing the education and training to equip the person with the needed knowledge and skills to maximize **self-care**.

The philosophy of rehabilitation is distinctly different from acute care. In acute care the patient's survival is a primary focus. Nurses provide care provision that involves performing activities of daily living *for* persons,

whereas rehabilitation focuses on educating persons to be able to perform activities of daily living for themselves. Promoting self-care is key to rehabilitation.

The process of rehabilitation is best undertaken with the coordinated and deliberate assistance of an interdisciplinary team of experts who each bring specific knowledge and skills to the rehabilitation program for each patient or client. Such a healthcare team may consist of a variety of team members including physicians, nurses, therapists, social workers, case managers, nutritionists, orthotists, prosthetists, and vocational counselors, to name a few. The client functions as the center of the interdisciplinary team (see Chapter 5), which is composed of knowledgeable specialists who work together, share common goals, and collaborate to help clients reach their personal goals.

DEFINITIONS OF REHABILITATION

Rehabilitation is a process of **adaptation** or recovery through which an individual suffering from a disabling or functionally limiting condition, whether temporary or irreversible, participates to regain maximal function, independence, and restoration. Rehabilitation "refers to services and programs designed to assist individuals who have experienced a trauma or illness that results in impairment that creates a loss of function (physical, psychological, social, or vocational)" (Remsburg & Carson, 2006, p. 579). The National Cancer Institute (2007) defined rehabilitation as "a process to restore mental and/or physical abilities lost to injury or disease, in order to function in a normal or near-normal way" (p. 1). For some, this may be a lifelong process. For others, rehabilitation is of short duration. For example, a gymnast may injure her arm and need 3 months of rehabilitation to resume her former activity with full range of motion. But for an individual diagnosed with a severe stroke or a war veteran with head trauma, the rehabilitation may be continuous, even lifelong. Table 1.1 provides examples of conditions that may be improved with rehabilitation.

TABLE 1.1 Examples of Conditions That May Benefit from Rehabilitation

Spinal cord injury
Stroke
Traumatic brain injury
Multiple sclerosis
Guillain-Barré syndrome
Polytrauma
Amputation
Disfiguring burns
Parkinson's disease
Functional debility
Joint replacement
Rheumatoid arthritis
Cerebral palsy
Muscular dystrophy
Chronic obstructive pulmonary diseases
Polio
Certain types of cancer
Alzheimer's disease and other dementias

GOALS

Although goals are mutually established for each individual who participates in rehabilitation, there are underlying principles that guide the development of the plan of care. Habel stated that "rehabilitation goals are the desired outcomes for each rehabilitation client" (1993, p.3). All members of the rehabilitation team, although concentrating on a particular area, share similar goals for the client. These include promoting self-care, maximizing independence, maintaining and restoring function, preventing complications, and encouraging adaptation. Table 1.2 lists the common goals of the rehabilitation team. The client's achievement of these is measured by considering outcomes based on the care planning of the interdisciplinary team, as discussed in Chapter 5.

TABLE 1.2 Common Goals of the Rehabilitation Team

Foster self-care, self-sufficiency
Encourage maximal independence level
Maintain function
Prevent complications
Restore optimum function
Promote maximum potential
Emphasize abilities
Promote adaptation
Restore acceptable quality of life
Maintain dignity
Reeducate
Assist with community reintegration/reentry
Promote optimal wellness

In addition to helping the client set goals in each needed discipline, interdisciplinary team members also meet regularly and establish realistic goals and objectives that team members can address together. A team goal is one in which two or more disciplines participate, is mutually established with the patient, and is time limited, realistic, and measurable. An example of a team goal related to patient safety might be the following: *Mr. Smith will lock his wheelchair brakes 100% of the time with cues from staff by discharge*. From this goal, one can see that it is patient oriented (Mr. Smith and his actions are the focus), has a definite time limit (by discharge), is measurable (100% of the time), and includes interventions or reminders from a variety of team members working with the client throughout the day. This is the type of goal the team can evaluate during weekly team conferences in which individual staff members provide updates about progress toward desired outcomes for each patient.

HISTORY

The development of rehabilitation principles occurred over a number of years in history, but rehabilitation was not recognized as a specialty until much later. As early as thousands of years ago, an Egyptian physician recorded his observations of a patient with a spinal cord injury, describing a dislocated vertebra in the neck, paralysis, and urinary incontinence (Martin, Holt, & Hicks, 1981). The earliest record of crutches appeared on an Egyptian tomb in 2380 B.C. (Mumma, 1987). During 300 to 400 B.C., Hippocrates, known as the Father of Medicine, stated that "exercise strengthens and inactivity wastes," recording the use of artificial limbs in a patient with amputation (Mumma, 1987).

Several nurses are credited with playing a significant role in the promotion of rehabilitation concepts. Florence Nightingale organized professional nursing in England in 1854. By using rehabilitation principles, Nightingale was able to significantly decrease the mortality rate during the Crimean War. Isabel Adams Hampton (1860–1910) was one of the leaders in the development of the nursing profession in North America. In a book on nursing principles and practice, Hampton pointed out to her pupils the importance of cleanliness and asepsis at all times to prevent secondary infections, saying "no department of a nurse's work should appeal more forcibly to her than the attention to the hygiene of the sick-room. She should thoroughly grasp the general principles which underlie the subject, and endeavor to apply them in the minutest detail" (Hampton, 1893, p. 93).

> *Nightingale saved "more lives in the Crimean War than the entire British medical department, using hygiene and rehabilitation principles practiced by the ancient Romans."*
>
> *Christine Mumma, early ARN leader and author (1987, p. 5)*

Although early records of the use of such exist, it was not until the world wars ensued that significant gains were made in the field of rehabilitation. This first occurred through the armed forces, with rehabilitation services not generally being available to civilians. In fact, the increased number of disabled veterans returning from battle provided the impetus for medical advancement and federal legislation. Before this time, the need for rehabilitation was not nearly as great. One can see that a major influence on the development of rehabilitation was war.

World War I presented the United States with many causalities but little hope of rehabilitation for injured soldiers. However, in 1917 the American Red Cross Institute for Crippled and Disabled men was created in the United States to provide vocational training for wounded military personnel. Several federal as well as individual state laws were passed in an attempt to help the disabled, but nothing was done on a wide scale.

After World War I, the life expectancy of a spinal cord–injured patient was less than 1 year. Mortality rates from these types of condition were high, and rehabilitation was generally minimized. Howard Rusk, a pioneer in rehabilitation medicine, recounted that the care for those with spinal cord injuries was poor. The founder of the Rehabilitation Institute of Chicago recounted that in these days a person with spinal cord injury or stroke might be laid in a box of sawdust in the basement of the hospital, given little therapy, and waiting to die.

> *"They got terrible bed-sores, developed kidney and bladder problems, and simply lay in bed, waiting for death. It was almost the same with strokes."*
>
> *Dr. Howard Rusk, pioneer in rehabilitation medicine (1977, p. 43)*

The Veterans Administration was created after World War I to care for those with service-related disabilities, but the initial care provided in the early 1940s was custodial, not rehabilitative. However, significant legislative decisions, such as the Vocational Rehabilitation Act of 1943, provided funding for training and research with the disabled. In addition, the United Nations Rehabilitation Administration drew the involvement of 44 countries in the planning of care for wounded and disabled veterans.

As a result of the development of sulfa drugs and better medical treatment, more wounded had survived World War II and the world now had to decide what to do with its disabled. According to Rusk (1977), although there had been many people concerned with the fate of the disabled, there was no organized movement to promote their rehabilitation. Fortunately, he persevered in his belief that there was **quality of life** beyond disability. Rusk's philosophy, which he developed and practiced during World War II, was to treat the whole man—that it was not enough just to heal the body. He pleaded his cause to anyone who would listen, pioneering a field that other doctors refused to accept as legitimate, until rehabilitation services were available to civilians as well as military patients. His experiences touched an entire nation, and his expertise influenced care of the disabled around the world.

The American Academy of Physical Medicine and Rehabilitation was established in 1938 and the American Board of Physical Medicine and Rehabilitation in 1947. However, if was not until well into the 1950s that rehabilitation began to be widely accepted as a viable medical specialty. During this time books were published by physicians on the subject, and over the next two decades several pieces of legislation were enacted, including many amendments to the Vocational Rehabilitation Act of 1943, the Architectural Barriers Act of 1968, and the Rehabilitation Act of 1973. The most significant piece of legislation passed in the 1990s was the Americans with Disabilities Act. This statute mandated employers to make reasonable accommodation for disabled workers, preventing discrimination on the basis of physical impairment. Table 1.3 summarizes major historical and legislative highlights.

TABLE 1.3 Selected Major Historical and Legislative Highlights Related to Health Care and Disability

Year	Highlight
1601	Poor Relief Act (England): provided assistance for the poor and disabled.
1854	Florence Nightingale organized professional nursing in England; used hygiene and rehabilitation principles practiced by the ancient Romans.
1873	First school of nursing at Bellevue Hospital in New York.
1883–1902	A wave of hospitals, homes, and institutes established for "crippled children."
1910	Nurse Susan Tracy published "Studies of Invalid Occupation"; the beginning of occupational therapy.
1911	Workers' Compensation Laws enacted.
1914–1918	World War I
	American Red Cross Institute for Disabled Men provided vocational training for injury soldiers.
1918–1938	Post–World War I: mortality rate of those wounded, particularly with spinal cord injuries, was high. Rehabilitation was minimized. Veterans Administration was created to care for those with service-related disabilities.
1919	First issue of *Archives of Physical Medicine and Rehabilitation*.
1920	First Civilian Rehabilitation Act passed by Congress (Smith-Fess Act): provided vocational rehabilitation services. First civilian rehabilitation program formed.
1935	Social Security Act enacted.
1938	American Academy of Physical Medicine and Rehabilitation formed.
1939–1945	World War II
1941	Dr. Frank Krusen wrote the first comprehensive book on physical medicine and rehabilitation.
1942	Sister Kenny Institute established: Sister Kenny's research led to the development of the profession of physical therapy and boosted support for physiatry as a specialty.
1943	Vocational Rehabilitation Act: provided funding for training and research with the disabled (amendments follow through the 1960s). UN Rehabilitation Administration was formed. Representatives from 44 countries met to plan care for disabled WWII veterans. The number of disabled veterans increased as a result of the development of sulfa drugs and better medical treatment.

TABLE 1.3 Selected Major Historical and Legislative Highlights Related to Health Care and Disability *(Continued)*

Year	Highlight
1945–present	Post–World War II : greater number of disabled civilians because of increased industrialization and transportation accidents.
1946	Hill-Burton Act (Hospital Survey and Construction Act)
1947	Dr. Howard Rusk brought the first medical rehabilitation services to a U.S. Hospital (Bellevue). The American Board of Physical Medicine and Rehabilitation was formed. Rehabilitation became a board-certified specialty.
1951	Alice Morrissey, RN, wrote the first textbook for rehabilitation nursing.
1958	Dr. Rusk and collaborators first published *Rehabilitation Medicine*.
1966	Medicaid enacted. The Commission on Accreditation and Rehabilitation Facilities was established.
1968	Architectural Barriers Act: set accessibility standards for federal buildings.
1973	Federal Rehabilitation Act: increased awareness of the needs of those with disabilities; influenced accessibility and employability.
1974	Association of Rehabilitation Nurses (ARN) formed; rehabilitation nursing emerges as a specialty.
1975	*ARN Journal* was first published.
1981	ARN publishes *Rehabilitation Nursing: Concepts and Practice—A Core Curriculum*. Another comprehensive rehabilitation nursing text published.
	The *ARN Journal* was renamed to *Rehabilitation Nursing*.
1984	The first certification exam for rehabilitation nurses (CRRN) was given
1990	Americans with Disabilities Act: mandated "reasonable accommodation" by employers for those with disabilities.
1993	Family Leave Act enacted to assist those with caregiver and family responsibilities.
1995	ARN publishes a core curriculum for advanced practice in rehabilitation nursing; the first advanced practice nurse certification examination in rehabilitation is offered to obtain the credentials CRRN-A
2009–present	The CRRN-A credential is terminated. All nurses who wish to certify in rehabilitation nursing obtain the basic CRRN.
	In response to the growing number of injured veterans from continuing wars in Iraq and Afghanistan, the VA established four Polytrauma Rehabilitation Centers and 21 Polytrauma Network Sites as well as many other Polytrauma Support Clinic Teams to provide support and rehabilitation to returning soldiers.
2010	Final rule for IRF prospective payment system implemented that affects payment for rehabilitation services through Medicare

The **Association of Rehabilitation Nurses (ARN)** was established in 1974 by Susan Novak to address the need for nurses in this specialty area. In 1976 the ARN was recognized as a specialty nursing organization by the American Nurses Association (ARN, 2010a). The first rehabilitation nursing journal was published in 1975 and then a core curriculum in 1981. The first **certification** exam for rehabilitation nurses was given in 1984. As of 2010 there were about 10,000 certified rehabilitation nurses in the United States. See Box 1.1.

BOX 1.1 Web Exploration

Visit the ARN website at www.rehabnurse.org. Explore the resources available through the ARN and examine the ARN-CAT.

Although the roots of rehabilitation may have been slow to take hold, growth continues to be evident. By the early 1990s rehabilitation was one of the top specialty choices of medical students. Certifications now exist

for many types of specialists related to rehabilitation, including physiatrists, nurses, counselors, case managers, life care planners, and insurance representatives. Interestingly, the current wars in Iraq and Afghanistan have again propelled rehabilitation services into the forefront with the development of polytrauma centers that address the complex medical and rehabilitation needs of war veterans experiencing the after-effects of new explosives and tactics of war.

In addition to the influence of war on the development of rehabilitation, payment systems also play a role. The impact of reimbursement and prospective payment systems has become a driving factor in the availability and accessibility of rehabilitation services in the United States.

> "Section 4421 of the Balanced Budget Act of 1997 (Public Law 105-33), as amended by section 125 of the Medicare, Medicaid, and SCHIP (State Children's Health Insurance Program) Balanced Budget Refinement Act of 1999 (Public Law 106-113), and by section 305 of the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 (Public Law 106-554), authorizes the implementation of a per discharge prospective payment system (PPS), through section 1886(j) of the Social Security Act, for inpatient rehabilitation hospitals and rehabilitation units—referred to as inpatient rehabilitation facilities (IRFs). The IRF PPS will utilize information from a patient assessment instrument (IRF PAI) to classify patients into distinct groups based on clinical characteristics and expected resource needs. Separate payments are calculated for each group, including the application of case and facility level adjustments." (Centers for Medicare & Medicaid Services, 2009, paragraph 1)

With changes in reimbursement that have occurred at many different points during the past few decades as rehabilitation became a specialty, there have also been wide variations in length of stay. During the late 1980s and early 1990s, persons with spinal cord injury and stroke were able to stay in acute rehabilitation for months until they were ready to be discharged. Home passes allowed them to leave the hospital and spend overnights with family and still return for therapy. Changes in payment resulted in decreased length of stay and more pressure on the interdisciplinary team to discharge patients "quicker and sicker." Less time was available for nurses and therapists to teach patients and family members what they needed to successfully adapt to life after a disability. Outpatient therapy became more popular, and the number of clinics increased, putting new pressure on inpatient facilities to maintain their census. (These issues are discussed further in Chapter 26.)

New rules from the Centers for Medicare & Medicaid Services that were effective in January 2010 may again impact the affordability of rehabilitation services. The ARN is active in the development of health policy and advocacy at the national level and has made this a priority for the future. A number of white papers state ARN's position on important issues. These are accessible through the ARN website (http://www.rehabnurse.org/advocacy/position.html). See Box 1.2.

BOX 1.2 Web Exploration

Visit http://www.rehabnurse.org/advocacy/activities.html and browse the various activities of the ARN with regard to health policy and advocacy. Choose a link and read an issue brief or correspondence to Congress.

CONCEPTS AND PRINCIPLES

Concepts provide a way of categorizing or considering some major factors that may influence rehabilitation. In Part I of this text, many concepts are discussed that lay the framework for the rest of the book. Clinical reference books, texts, and healthcare research provide a fine body of literature on concepts related to rehabilitation such as adaptation, **holistic care**, **chronicity**, quality of life, coping, and self-care. The literature is filled with many helpful rehabilitation quotes from a variety of sources. Most of these "sayings" can be placed into one of several categories. Examples of general guiding principles used by rehabilitation professionals, with supporting concepts, follow.

> *"I think nurses should encourage all clients and patients to practice self-care. Orem's Self-Care Deficit Nursing Theory is an excellent theoretical model for rehabilitation nurses. As one progresses from a state of dependence to independence, self-care becomes a cardinal attribute of independence."*
>
> *Paul Nathenson, ARN leader (ARN Network, 2008, p. 9)*

Promote Adaptation, Not Just Recovery

The physical and emotional challenges that come with a disabling condition make a patient's experience intensely personal. Rehabilitation professionals understand that their role, no matter how great the contribution to the client's success, can only support and encourage strength and resourcefulness within the person.

All too often in healthcare terminology one hears the word *recovery* applied to the process that occurs after an accident or illness. This term purports the notion that a person can be completely restored to a former state of health and that this is the goal of treatment, but such is not often the case with long-term illnesses or injuries. Indeed, when considering the concept of recovery, one must wonder whether a patient ever truly returns to the exact premorbid state, because a change has occurred necessitating rehabilitative care.

The process of rehabilitation helps individuals adjust or adapt to life-altering situations without giving false hope of total recovery. In addition, patients may use the word *recovery* with a different meaning from that assigned to it by health professionals (Easton, 1999). Words such as *adaptation* suggest that clients may not return to the way they were before the illness or accident but that they can learn to make adjustments in their lifestyle to cope with changes that have occurred.

Those who experience chronic illnesses or disability come to the hospital with quite different needs from those who arrive for acute problems. Having a leg amputated is not akin to having an appendix removed. One condition may require a brief period of convalescence with complete recovery, whereas the other requires an extended period of rehabilitation with lifelong changes. In the case of an amputation, the client does not "get fixed," go home, and then resume life as before. Adjustments must be made. From a long-term health deviation, often there is no complete "recovery" but rather adaptation.

Persons recently diagnosed with multiple sclerosis or suffering a spinal cord injury are facing a life-altering situation. What has happened will change the way they live, think, and interact with others. For these individuals, the road of life will never be traveled the same again. They soon realize they will not return to their former state. Their life has been forever altered, and they may experience feelings of hopelessness, powerlessness, and sorrow.

Rehabilitation often makes the difference between positive adjustment and negative outcomes. As patients participate in therapeutic activities, the likelihood of successful reintegration into the community increases. Although this process may be long and arduous, patients and families who participate in it acknowledge feeling better about themselves and often express a greater ability to cope and improved acceptance of their new roles and self-image (Easton, Rawl, Zemen, Kwiatkowski, & Burczyk, 1995). The rehabilitation team assists clients back toward independence and the achievement of personal goals. When an individual's condition is acute, the services of the interdisciplinary team may be minimal. But if the state is chronic, a significant amount of therapy may be indicated.

Also of note is that persons with long-term health deviations may deal with chronicity throughout their lives, but they also experience acute problems too. Chapter 2 provides more detailed information on chronicity and disability and how individuals cope with long-term health concerns. Chapter 4 provides additional theories and frameworks for chronic illness, disability, adaptation, and coping.

Many persons living with functional deficits do not consider themselves disabled. There are things they cannot do, but other things they can do. Rehabilitation assists these persons in making the most of abilities and strengths that remain and working with what they have. Thus, the process of adaptation and recovery engaged in by those with physical limitation must be optimistic in nature and center on developing and maximizing the functions that remain.

Emphasize Abilities

People who have experienced a major health crisis have reason enough to think negatively. If rehabilitation focused on what patients had lost, then there would indeed be cause for despair. An amputated limb may not be restored, but an artificial one can return the function of ambulation. A hemiplegic arm may no longer be able to write, but it can help provide balance and stability. A traumatic brain injury may have robbed a person of speech, but with speech therapy, effective communication may be restored. Likewise, individuals with several physical impairments may choose to capitalize on their intellectual capabilities, exploring areas that were perhaps previously neglected.

Rehabilitation professionals offer hope and an optimistic outlook for the future to those whose lives have been devastated by a life-altering condition. Goal attainment is one way to measure a patient's progress. Setting mutually agreed on, realistic, achievable goals, both short term and long term, allows clients to participate in the rehabilitation process. Clients feel a sense of accomplishment when they overcome obstacles to meet their objectives. For some patients, being able to walk or talk again is a major step toward regaining independence. For others, meaningful progress is measured in smaller gains, such as being able to talk on the telephone, play cards, or resume a prior hobby.

Treat the Whole Person

The concept of the person as a holistic being is inherent to the rehabilitation process. Every person is a unique individual, worthy of the same respect and consideration as any other, regardless of age, race, gender, creed, or functional capacity. When a life-changing event occurs, it is essential for healthcare professionals to remember that the person being treated brings with them all past experiences, problems, values, and beliefs. The rehabilitation process strives to utilize these prior experiences to the individuals' benefit, not to remake the person.

Professionals treat the person, not the disease. Although this should be true in all of health care, it is one of the founding principles of rehabilitation. A disability affects not only the individuals' health, but everything about his or her body, relationships, environment, and community. Patients requiring a long period of treatment experience multiple changes in their lives. Financial considerations may be a great burden to some. Others may worry about role adjustments and the effect of their illness on family. Still others struggle with anger and depression. Denial and nonacceptance of one's limitations are barriers to successful adaptation. Therefore, a patient's preferences, culture, religious beliefs, values, developmental stage, social support, cognitive and physical abilities, and stress and coping patterns are all assessed by the interdisciplinary team when formulating a plan of care.

Rehabilitation is one specialty in which knowledge of the principles of adult learning is essential. Assessing the patient's prior knowledge and experience provides insight into his or her life philosophy and goals. Using this information, the team can get a better idea of the whole person and develop appropriate plans of care. Because team members engage in a large amount of educative activities with patients, drawing on an individual's background as a basis for teaching and learning can be helpful.

Disability Affects the Entire Family

Grieving is a normal part of the rehabilitation process for those who have suffered loss. This includes both the patient and those close to him or her. The client's family will also grieve. Research has demonstrated that the wives of stroke patients often remain in the depression phase of grieving longer than the patient (Rosenthal, Pituch, Greninger, & Metress, 1993) and that caregivers of stroke survivors have unique needs themselves (King & Semik, 2006; Pierce, Steiner, Hicks, & Holzaepfel, 2006). Coping with a chronic health problem requires many changes to the patient's entire support system. Thus, a long-term illness or disability affects the entire family.

The interdisciplinary team assists the patient and family to attain a quality of life that is acceptable to them. Family members often have unrealistic expectations of the client, making comments such as "when he gets over this and things return to normal, then I'll be all right." The grieving process may take time and continue long after the patient has been discharged. The team works together to identify appropriate resources, whether financial, emotional, or spiritual, to assist the family. Times of respite for the caregiver may be indicated, and the nurse should be able to identify community resources for the family before discharge, anticipating future needs. Follow-up programs can also have a positive impact on long-term coping skills (Easton et al., 1995).

Rehabilitation Begins "Day One" With Preventing Complications

Today's healthcare professionals are more aware of the need for preventive care. The move toward primary health care, health maintenance organizations, preventive medicine, and expanded roles for nurse practitioners indicates this. Yet the push toward primary prevention has not always resulted in the prevention of secondary complication so often seen in rehabilitation patients.

Take, for example, the situation of Mrs. Smith, who was admitted with the diagnosis of acute cerebral vascular accident to the intensive care unit (ICU) of a large, reputable hospital. As a result of the severity of her condition, Mrs. Smith twice experienced cardiac arrest and was successfully resuscitated. For three days Mrs. Smith was essentially unresponsive and had to rely on others for all her basic care needs. During this crucial time, however, Mrs. Smith developed black spots on her heels, indicating pressure ulcers. The nurses caring for her did not remember that "rehabilitation begins day one" and had been short-sighted in their thinking, not paying close enough attention to complications that could have been prevented. Once medically stable, Mrs. Smith was transferred to inpatient rehabilitation for concentrated therapy. After one week in rehabilitation she told her rehab nurse, "In ICU, I died and they revived me twice, but I didn't feel alive after my stroke. The people in rehabilitation have brought me back to life in a different way. They helped me to live again!" Mrs. Smith's determination propelled her through the rehabilitation program, and she began gait training. However, the black areas on her heels broke open once she became ambulatory. She told

the rehabilitation nurses that she had not been turned for days while in the ICU. The stage IV wounds now on both heels required whirlpool therapy twice daily to control the copious amounts of drainage. The pain and bulky dressings greatly inhibited Mrs. Smith's ability to walk, setting her rehabilitation progress back. In addition, her wounds continued to require extensive outpatient treatment months after discharge, and Mrs. Smith and her family brought suit against the hospital to cover the cost of her ICU-acquired pressure sores. Aside from the obvious legal implications of this case, Mrs. Smith experienced unnecessary pain, suffering, and interference with her rehabilitation as a result of events occurring in the acute care unit. Rehabilitation must begin as soon as the patient is hospitalized to prevent secondary complications that could have devastating consequences later.

Other examples that demonstrate how postacute rehabilitation can be impeded if not practiced from the first day include the development of contractures. The nurse in the acute care setting who does not educate the patient with a new below-the-knee amputation about the contraindication of using a pillow under the knee joint may well promote a contracture that prohibits the complete range of motion necessary for wearing a prosthesis later to ambulate. Likewise, a person with a complete spinal cord injury and paraplegia may be dependent on the acute care staff to maintain skin integrity. If a sacral pressure ulcer forms, that client would be unable to develop needed wheelchair skills and perhaps be confined to a prone position until the wound heals. In addition, stroke patients who have been in acute care even one week or less if not given proper range of motion exercises and those who are allowed to stay in the "stroke position" will have to undo the ill effects of immobilization while embarking on intensive therapy. Such a patient may permanently have a contracted hemiplegic arm and hand. All these conditions are likely preventable when the healthcare professional applies the concepts and principles of rehabilitation.

REHABILITATION NURSING

> *Evidence-based practice is the cornerstone of practice excellence, used for the development of standards of practice and to influence policy and legislation impacting those with chronic illness and disability.*
>
> *Stephanie Burnett (2012, p. 29)*

Rehabilitation nursing is a nationally recognized specialty with a core body of knowledge and its own curriculum and research base, specialty organization, and certification (ARN, 1996, 2000, 2007). Rehabilitation nursing was first recognized as a specialty by the American Nurses Association in 1976 (ARN, 2010a). The ARN was established in 1974 due to the emerging need for a network and support for those practicing rehabilitation in a growing number of areas. Presently, the ARN has developed 11 role description brochures (Table 1.4) to address the practice of rehabilitation nurses across a variety of settings and populations. This attests to the growth of this specialty area.

TABLE 1.4 Role Description Brochures Available From the ARN at www.rehabnurse.org

- The Gerontological Rehabilitation Nurse
- The Home Care Rehabilitation Nurse
- The Pain Management Rehabilitation Nurse
- Pediatric Rehabilitation Nursing
- Rehabilitation Nurse Manager
- The Rehabilitation Admissions Liaison Nurse
- The Advanced Practice Rehabilitation Nurse
- The Rehabilitation Nurse Case Manager
- The Rehabilitation Nurse Educator
- The Rehabilitation Staff Nurse
- The Rehabilitation Nurse Researcher

The ARN discusses rehabilitation nursing broadly by stating that "rehabilitation nurses help individuals affected by chronic illness or physical disability to adapt to their disabilities, achieve their greatest potential, and work toward productive, independent lives. They take a holistic approach to meeting patients' medical, vocational, educational, environmental, and spiritual needs" (ARN, 2010a, paragraph 1). The roles of the rehabilitation nurse are discussed more explicitly in Chapter 6, so this chapter only briefly introduces rehabilitation nursing.

Rehabilitation nurses practice in a wide variety of settings, including acute care hospitals, long-term care facilities, retirement communities, the community at large, hospice, the military, and academe. Similarly, rehabilitation nurses may specialize in working with various populations such as adults, pediatrics, or geriatrics, or they may focus on a particular aspect of rehabilitation care, such as pain, case management, legal nurse consulting, or life-care planning. Others may specialize in care of persons with stroke, brain injury, polytrauma, or burns. Therefore, rehabilitation nurses can be found everywhere, but what sets them apart is their holistic, long-term perspective and unique set of skills they bring to each setting and group with whom they interact.

Most members of the interdisciplinary team have expertise in given areas of rehabilitation. For example, physical therapists are particularly knowledgeable about muscles, movement, and gait. Occupational therapists focus on activities of daily living and home maintenance functions. Speech-language pathologists are experts in dysphagia, cognition, and speech disorders. Physiatrists are medical doctors with physical medicine and rehabilitation as their specialty. Likewise, rehabilitation nurses have several domains that fall under their scope of practice.

Some of the common areas addressed by the rehabilitation nurse include pain management, behavior, skin, bowel and bladder, medications, patient and family education, and nutrition. As an essential member of the rehab team, and the only professional who provides 24-hour-per-day care in acute rehabilitation, the rehab nurse brings a skill set to the team that makes her or him uniquely qualified to provide holistic care that should be highly valued by the patient, family, and fellow team members.

Rehabilitation nursing is a specialty just like perioperative nursing, oncology, or orthopedics. Rehabilitation requires special knowledge, skill sets, and expertise to achieve positive patient outcomes. Rehabilitation nurses use the roles of caregiver, teacher, case manager, counselor, and advocate (ARN, 2000). This type of care cannot be provided without education and a solid knowledge about rehabilitation (Lin & Armour, 2004; Pryor, 2002; Remsburg & Carson, 2006). Sadly, most nursing programs today do not include adequate content in rehabilitation, and few, if any, graduate programs in rehabilitation nursing currently exist. However, "far from being categorized as 'enthusiastic amateurs,' nurses aspire to be 'rehabilitators par excellence,' but there is little evidence in the literature that the necessary educational preparation is available or undertaken to achieve this, despite a number of studies supporting the overall view that specific educational preparation is required" (Booth, Hillier, Waters, & Davidson, 2004, p. 466).

Nurses validate their knowledge and skills in rehabilitation in several ways. Two of the most common are meeting basic competencies and obtaining certification in the specialty.

COMPETENCIES AND CERTIFICATION

In 1994 the ARN published a document entitled *Basic Competencies for Rehabilitation Nursing Practice*. This manual was designed to help preceptors or staff educators teach and orient new nurses to the specialty practice of rehabilitation. It was divided into three phases to be covered over 12 months. Months 1 to 3 were orientation, months 4 through 6 were midyear development, and months 7 through 12 included first-year competencies. Under each phase was listed a number of specific competencies that for the entire program totaled 89. Although this publication is no longer available to the general public, it presented a significant marker in the development of the specialty and a logical step in delineating rehabilitation nursing. In 2006 ARN moved to an evidence-based practice focus with its new publication *Evidence-based Rehabilitation: Common Challenges and Interventions* (Edwards, 2007).

Today, the ARN has listed 16 basic competencies (Table 1.5) recently updated from the 14 previous competencies set forth in the ARN-Competencies Assessment Tool (CAT). The ARN-CAT is a Web-based tool available at no cost from the ARN website to assist managers and educators in evaluating the rehabilitation knowledge of their staff in basic areas. Each competency area is tested with 10+ multiple-choice questions. The person taking the test must log in before taking the exam. The computer

TABLE 1.5 Sixteen Basic Competency Areas Included in the ARN-CAT

Autonomic dysreflexia
Bladder function
Bowel function
Communication
Disability
Dysphasia
Gerontology
Musculoskeletal/body mechanics/functional transfer techniques
Neuropathophysiology (CVA, SCI, TBI) and functional assessment
Pain
Patient and family education
Pediatrics
Rehabilitation
Safe patient handling
Sexuality
Skin and wound care

CVA, cerebrovascular accident; SCI, spinal cord injury; TBI, traumatic brain injury.

then provides a printout of the person's score along with rationale for the correct answer to each question and citation of one reference that supports the correct response. The questions were updated in late 2009 to reflect more current practice. However, no reliability or validity statistics are available for the ARN-CAT.

Certification in one's specialty area has been associated with increased knowledge and more positive patient outcomes (Carey, 2001; Kendall-Gallagher & Blegen, 2009; Nieburh & Biel, 2007). In a landmark study by Nelson and colleagues (2007), the researchers used a prospective observational design to examine nursing staffing patterns and the impact on patient outcomes in rehabilitation. The team of researchers studied 54 rehabilitation facilities stratified by geography and randomly selected to participate. This was the first study to report on relationships between nursing staffing and patient outcomes. A significant finding was that certification in rehabilitation was inversely related to length of stay in rehabilitation patients. More specifically, a 6% increase of nurses certified in rehabilitation on the unit was associated with an approximate one day decrease in length of stay. Additionally, nurses certified in rehabilitation report valuing their certification and expressed that it added knowledge, confidence, and professional recognition to their practice (Leclerc, Holdway, Kettyle, Ball, & Keither, 2004).

The credential for certified rehabilitation nurses is **certified registered rehabilitation nurse (CRRN)**. About 10,000 nurses in the United States hold the CRRN certification. To obtain the CRRN designation, nurses must pass an examination. Requirements to sit for the CRRN examination include having an unrestricted registered nurse license and either 2 years of experience in rehabilitation or 1 year of experience and a year of graduate study in nursing beyond the bachelor's level (ARN, 2010b). Certification tells employers and patients that the nurse has expertise in this specialty area. To maintain certification, nurses must meet additional criteria and renew every 5 years either by examination or portfolio that documents continued education and activity in rehabilitation nursing. Certification is a way of validating one's expertise, gaining additional knowledge in the specialty area, and promoting credibility within the community.

SUMMARY

This introductory chapter provides a brief overview of the history, philosophy, and major concepts in rehabilitation. In the chapters that follow in Part I, the foundations of the specialty are discussed. In Part II, rehabilitation nursing competencies mentioned in this chapter are expounded upon using a variety of evidence-based content and teaching-learning strategies to help the reader ef-

TABLE 1.6 Selected Books Written by Those Experiencing Significant Health Alterations

Title	Author	Date	Topic
Tuesdays with Morrie	Albom	1997	Retired teacher dying from ALS
Bed Number Ten	Baier	1985	Mom with Guillain-Barré syndrome
The Diving Bell and the Butterfly	Bauby	1998	Editor-in-chief with brain-stem stroke/ locked-in syndrome
Flying without Wings	Beisser	1989	Physician with polio
My Stroke of Insight: A Brain Scientist's Personal Journey	Bolte Taylor		Neuroanatomist with stroke
My Stroke of Luck	Douglas	2003	Actor with stroke
Always Looking Up: The Adventures of An Incurable Optimist	Fox	2009	Actor with Parkinson's disease
Change in the Weather: Life After Stroke	McEwen	2008	TV weatherman with stroke
Still Me	Reeve	1999	Actor with spinal cord injury
Speechless: God and Brain Injury	Williamson	2005	Man with traumatic brain injury and aphasia
In an Instant	Woodruff	2007	TV journalist with brain injury acquired while covering war story

ALS, amyotrophic lateral sclerosis.

fectively retain and apply the information provided. Part III provides clinical guidance in caring for persons with various specific rehabilitative problems. Part IV presents contemporary and relevant issues related to practice, and Part V offers unique aspects of the discipline such as geriatrics, pediatrics, animal assisted therapy and life care planning. Rehabilitation nurses are encouraged to continue the pursuit of knowledge in this specialty area and read additional materials such as those books suggested in Table 1.6 and listed as additional resources throughout the other chapters in this text.

CRITICAL THINKING

1. Go to the ARN website at www.rehabnurse.org and log on to take the ARN-CAT. Choose the competency of "rehabilitation" and take the multiple-choice assessment. See how you scored and review any incorrect answers.
2. Visit a local public building in your town. Evaluate how accessible the building is to persons with the following adaptive devices: a wheelchair, a walker, a prosthetic leg.
3. Consider visiting a local veterans group and talking to some war veterans. Find out from them first hand what it was like to be soldiers, what common injuries they or their friends sustained, what long-lasting effects they experienced, and what part rehabilitation has played since their return from war. Ask them about the importance of maintaining independence and performing self-care after being wounded.

PERSONAL REFLECTION

- Do you have any friends or relatives with physical challenges that make mobility difficult? If so, how does this make you feel when you are doing activities with them? Are you more or less sensitive to others who may need to use adaptive equipment?
- How do you feel when you hear these terms applied to persons with physical limitations: crippled, invalid, wheelchair bound? What other terms might be preferable to use when discussing persons with altered physical capabilities?
- Imagine that tonight when you go home from school or work you are in a serious car accident that was not your fault. As a result, you have a complete C-2 spinal cord injury with tetraplegia and will be dependent on others for most of your care for the rest of your life. How would your life change? What kinds of feelings would you be dealing with? How would you cope with this loss of function? What resources do you have that could help you in adapting to a new life?

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