Chapter 5

Rehabilitation Concepts and Strategies

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Rehabilitation concepts are not solely limited to the processes associated with returning a person to full function following an illness or injury. This knowledge domain also includes a focus on the role of the case manager in both facilitating the client's safe and efficient movement through a post-acute recovery journey and advancing vocational rehabilitation goals for the client who has a disability or experiences a work-related injury.

The term *rehabilitation* has a number of definitions that may be closely related to disease or condition-specific processes that require restoration or maximization of physical or psychological function. The World Health Organization (WHO) has offered a general definition of disability-related rehabilitation as follows: "rehabilitation is a process aimed at enabling patients to reach and maintain their optimal physical, sensory, intellectual, psychological and social functional levels." Rehabilitation provides the tools individuals need to attain independence and self-determination.

Healthcare.gov, a website maintained by the Centers for Medicare and Medicaid Services (CMS), offers a consumer-friendly description of rehabilitation services; it states that rehabilitation includes "services that help you keep, get back, or improve skills and functioning for daily living that have been lost or impaired because you were sick, hurt, or disabled. These services may include physical and occupational therapy, speech-language pathology, and psychiatric rehabilitation services in a variety of inpatient and/or outpatient settings."

Additionally, the Commission for Case Management Certification (CCMC) defines the term *rehabilitation* as:

- "Restoration of form and function following an illness or injury
- Restoration of an individual's capability to achieve the fullest possible life compatible with his or her abilities and disabilities
- The development of a person to the fullest physical, psychological, social, vocational, avocational, and educational potential consistent with his/her physiological or anatomical impairment and environmental limitations"

The value of rehabilitation services and interventions transcends the scope of physical illnesses and injuries to advance restoration of a patient's ability to move, think, see, comprehend, and communicate. The Commission for Accreditation of Rehabilitation Facilities (CARF) was founded in 1966 to promote quality and values in the delivery of rehabilitation programs. Today, CARF serves as an accreditor of health and human services in the areas of

- Aging
- Behavioral health
- Child and youth services
- Employment and community services
- Medical rehabilitation including durable medical equipment, prosthetics, orthotics, and supplies
- Opioid treatment programs

REHABILITATIVE PROGRAMS

In addition to serving as an accreditation body for rehabilitation programs and services, CARF also presents specific definitions for many of the medical programs that advance the global goals of the rehabilitation process. These rehabilitative programs include:

- *Comprehensive Integrated Inpatient Rehabilitation Programs*—Provide coordinated and integrated medical and rehabilitation services 24 hours a day while supporting active patient participation with respect for patient preferences across each rehabilitative modality and intervention. Inpatient rehabilitation facilities (IRFs) provide at least 3 three hours of therapies 5 to 7 days a week with a physiatrist or physician of similar training/experience serving as the physician of record.
- *Outpatient Medical Rehabilitation Programs*—Individual, coordinated, outcomes-focused programs that seek to optimize participation of the patients served. These programs may be supported by a single discipline or an interdisciplinary team that addresses patient goals and capabilities as well as the efficiency and effectiveness of provided services. Sites of care include but are not limited to health systems, hospitals, freestanding outpatient rehabilitation centers, private practices, and a variety of other community settings. The frequency of therapy is generally two to three days a week based on the physician's prescribed restorative plan of care.
- *Home and Community Services*—Patient-centered programs that address the unique needs of the patient including "autonomy, diversity and individualized choice." These programs "promote and seek to optimize activities, function, performance, productivity, participation and quality of life for the patient served." Provided in multiple settings including private homes, residential settings, schools, workplaces, and other community settings, these programs are dynamic in that they focus on meeting the changing needs and goals of the patient served.
- *Residential Rehabilitation Programs*—These rehabilitative services focus on community and home integration and assisting the patient in engaging in appropriate activities. Residential rehabilitation programs are available to meet the needs of patients with issues related to substance use and abuse, addiction to alcohol, behavioral health and dual diagnoses that compromise a patient's ability to live independently, co-occurring medical and psychosocial needs, and cognitive deficits due to brain

injuries. Residential treatment programs generally support the patient through medication management techniques, stress and symptoms management, the advancement of independent living skills, relapse prevention and crisis prevention strategies, and connecting the patient to employment, education and vocational counseling, and other community reintegration services that advance the patient's goals for recovery.

- *Brain Injury Specialty Programs*—These programs focus on the "unique physical, medical, cognitive, communication, psychosocial, behavioral, vocational, educational, accessibility, and recreational needs of persons with acquired brain injuries." Patients, families, and support systems are integral to the success of the programs, which present individualized therapies and interventions to foster optimization of patient recovery, adjustment to residual deficits, and the development of skills that address those deficits and enhance quality of life.
- *Occupational Rehabilitation Programs*—These individualized rehabilitation programs advance an injured employee's ability to return to work. Programs are designed to "minimize risk to and optimize the work capability of the person served." Available in multiple settings including acute care, outpatient, private physician practices, or in the workplace environment, the programs are designed to address the work, health, and rehabilitation needs of the injured worker.
- *Disease-Specific Rehabilitation Programs*—A number of programs are available to meet the rehabilitative needs of patients who have been diagnosed with cancer, have experienced a spinal cord injury, have residual deficits associated with a stroke, have required the amputation of an extremity, and have persistent pain. While each program is unique to the disease state or intervention that promoted the need for rehabilitation services, all programs recognize the unique challenges the patient may experience and the specific goals the patient may wish to attain. Cardiac rehabilitation is another rehabilitation process that is disease specific. The National Heart, Lung, and Blood Institute defines cardiac rehabilitation as a medically supervised program for people who have coronary disease including myocardial infarction, heart failure, heart valve surgery, coronary artery bypass grafting, or percutaneous coronary intervention. Cardiac rehabilitation encompasses strategies to assist the patient to develop and maintain heart-healthy lifestyles with a focus on diet and exercise as well as stress reduction. Staffed by physicians, advance practice nurses, exercise physiologists, physical and occupational therapists, dieticians, and behavioral health counselors, cardiac rehabilitation programs also address the value of medication adherence and persistency through and across the health care continuum.

Supervised exercise and rehabilitation programs are also available for patients who have been diagnosed with peripheral artery disease. Supervised exercise can improve the quality of life for the patient by alleviating leg pain during exercise and increasing the distance the patient is able to comfortably walk. Medicare coverage is dependent on the program being directed and supervised by an exercise physiologist, physical therapist, or nurse.

Another type of disease-specific rehabilitation program is pulmonary rehabilitation. Defined by the COPD Foundation as a program of exercise, education, and support to advance pulmonary function, the program generally includes exercise training, nutritional counseling, energy-conserving techniques, breathing strategies, and behavioral health counseling.

The six-minute walk test is a measure of functional exercise capacity that was once solely utilized in cardiac and pulmonary rehabilitation. Today this performance-based measure is a common method for assessing the patient's ability to exercise in a number of disease states including osteoarthritis, fibromyalgia, Parkinsonism, and scleroderma. The test measures the distance the patient is able to walk on a flat surface in a six-minute period. The patient walks at his or her own pace and may rest periodically during the testing period. The initial distance traversed serves as a baseline, with subsequent evaluations indicating progress made as the patient moves through the health care continuum.

Although not specifically detailed within the descriptions of medical rehabilitation provided by CARF, another form of rehabilitative services is the long-term residential treatment program. This type of rehabilitative therapy generally offers a therapeutic community of care that is available 24 hours per day with a length of stay that may encompass 6 to 12 months. Using a multidisciplinary treatment team including other residents, the goal of the program includes resocialization of the individual with a primary focus on the advancement of personal accountability, responsibility, and socially productive futures. These programs may be available to "treat individuals with special needs, including adolescents, women, homeless individuals, people with severe behavioral health disorders and individuals in the criminal justice system."

Transitional living facilities also offer options for a patient who requires specific community reentry skills and are available to patients who have experienced a brain injury or other comprehensive injury to their physical status. These programs support the patient in developing the skills necessary for community reintegration. Behavior management programs may be provided as a component of transitional services and include a focus on advancing self-control and appropriate social behaviors.

Other rehabilitative settings that may not be clearly defined by CARF include:

- *Long-term acute care hospital (LTAH or LTAC)*—Patients admitted to LTAHs or LTACs generally are diagnosed with multiple acute or chronic conditions that require an intensity of care or services that meet criteria for extended acute care confinement. CMS defines an LTAH as a hospital that has an average inpatient length of stay greater than 25 days. Additionally, these facilities must meet Medicare's Conditions of Participation for acute care facilities.
- *Skilled nursing facility*—A facility that provides skilled care is defined by CMS as part of a hospital or nursing home that provides skilled nursing care or therapies to manage, observe, and evaluate a patient's health care needs. When a hospital or critical access hospital enters into a "swing bed" agreement with the U.S. Department of Health and Human Services, the facility can designate beds as acute care or skilled nursing care beds. Whether a part of a dedicated facility or a swing bed, Medicare coverage for skilled care is based on the establishment of a medically necessary need for skilled nursing or rehabilitation services on a daily basis.
- *Assisted living facility*—A residential facility generally offered to senior citizens that provides housing, meals, and limited assistance with activities of daily living. Residents reside in private quarters with the freedom to independently exit and enter the facility. Some supportive services are available and the residence is considered to be the Medicare beneficiary's home for the delivery of intermittent skilled nursing visits or the provision of rehabilitative therapies.
- *Respite rehabilitation programs*—These short-term rehabilitation programs offer comprehensive care including nursing services, medication management, and personal care. Offered to patients who might require additional supportive services following a transition from observation status or acute care hospitalization,

the cost of custodial care is not generally covered by Medicare. Benefit coverage for medically necessary therapies may be available through the Medicare home health care benefit. Costs associated with services that might be considered custodial in nature might be covered by long-term care insurance or funded by the patient or family.

REHABILITATIVE SERVICES

The term *rehabilitative services* addresses a broad array of unique interventions that advance a patient's ability to restore physical or psychological function as much as possible based on any deficits or physical or mental compromise imposed by injury or disease.

Physical Medicine and Rehabilitation

The broad term *physical medicine and rehabilitation* is defined as that branch of medicine that seeks to enhance and restore functional ability and quality of life to those with physical impairments or disabilities affecting the brain, spinal cord, nerves, bones, joints, ligaments, muscles, and tendons. The primary focus of this branch of medicine is "maximal restoration of physical and psychological function, and alleviation of pain."

Physical Therapy

Physical therapy or physiotherapy is defined by the WHO as the process of assessing, planning, and implementing rehabilitative programs that "improve or restore human motor functions, maximize movement ability, relieve pain syndromes, and treat or prevent physical challenges associated with injuries, diseases and other impairments. Physical therapists apply a broad range of physical therapies and techniques such as movement, ultrasound, heating, laser and other techniques." Another definition provided by the World Confederation of Physical Therapy is "services provided by physical therapists to individuals and populations to develop, maintain and restore maximum movement and functional ability throughout the lifespan." Physical therapists maintain a comprehensive understanding of the body and employ that knowledge to "maximize quality of life and movement potential within the spheres of promotion, prevention, treatment/intervention, habilitation and rehabilitation."

Occupational Therapy

Occupational therapy is defined by the World Federation of Occupational Therapists as a client-centered health profession concerned with promoting health and well-being through the everyday activities that people do as individuals, families, and communities to "occupy time and bring meaning as well as purpose to life." Occupational therapists achieve this outcome by working with people and communities to enhance their ability to engage in the activities they want to, need to, or are expected to do, or by modifying the activities or the environment to better support their occupational engagement.

Speech Therapy

The American Speech, Language and Hearing Association defines speech therapy as a process that seeks to "prevent, assess, diagnose and address speech, language, social communication, cognitive communication and swallowing disorders." Speech therapy addresses both expressive and receptive language skills.

Balance and Vestibular Rehabilitation Therapy

A component of physical or occupational therapy, balance and vestibular therapies offer specific exercises and interventions that address imbalance, vertigo, and visual disturbances. Patient-specific therapies assist the patient to develop compensatory mechanisms that serve to diminish imbalance or vertigo associated with motion or visual stimuli.

Biofeedback

A process in which information gained from external sources such as electromyography or electroencephalography is utilized to encourage patient awareness of health status. Armed with this information and implemented strategies for modifying emotions, cognition, and behaviors, desired psychological changes may occur and the intensity or frequency of disease activity may be minimized. Although biofeedback is utilized to treat a number of disease states, the most common uses include the management of hypertension, migraine headaches, and chronic pain.

Neuropsychology

The American Psychological Association defines neuropsychology as a subspecialty of psychology that addresses the study of human behavior as applied to normal and abnormal functioning of the central nervous system. Patients who may benefit from the varied interventions provided by a neuropsychologist include those who have an acquired or developmental disorder of the nervous system such as traumatic brain injury (TBI), Parkinson's disease, dementia, seizure disorders, learning disabilities, and neurodevelopmental disorders.

Vision Therapy

According to the American Optometric Association, vision therapy is an individualized treatment regimen prescribed to prevent or treat visual dysfunctions. Common disorders addressed by visual therapies include ocular motor dysfunctions, amblyopia, and visual perceptual or visual information processing disorders. These rehabilitative programs are generally directed toward resolving visual problems that interfere with reading, learning, and educational instruction.

Aquatic Therapy

Aquatic therapy utilizes the resistance of water to advance established therapy goals. The unique properties of water may decrease pressure on weight-bearing joints, offer a reduction in inflammation, and present a safe environment for addressing balance. Aquatic therapy is generally facilitated by a physical therapist.

Lymphedema Therapy

Typically supported by a team of occupational and physical therapists, lymphedema therapy may include:

- Complete decongestive therapy including manual lymphatic drainage, use of a bandage or lymphedema compression garment to reduce swelling, skin care to reduce the incidence of infection, and muscle strengthening and stretching exercises to improve range of motion and functional mobility.
- Patient education to advance an individual's ability to continue to be effective and efficient in self-management of the disease.

DEFINITION OF COGNITIVE REHABILITATION THERAPY

A systematic, functionally oriented service of therapeutic cognitive activities, based on an assessment and understanding of an individual's brain behavior deficits. "Services are directed to achieve functional changes by reinforcing, strengthening, or reestablishing previously learned patterns of behavior, or establishing new patterns of cognitive activity or compensatory mechanisms for impaired neurological symptoms" (Harley, 1992).

Work Conditioning

As defined by CCMC, work conditioning is an "intensive, work-related, goal-oriented conditioning program designed specifically to restore systemic neuromusculoskeletal functions (e.g., joint integrity and mobility), muscle performance (including strength, power, and endurance), motor function (motor control and motor learning), range of motion (including muscle length), and cardiovascular/pulmonary functions (e.g., aerobic capacity/endurance, circulation, and ventilation and respiration/gas exchange). The objective of the work conditioning program is to restore physical capacity and function in order to enable a timely return to work." Therapy is generally provided 2 to 4 hours per day 5 days per week.

Work Hardening

As defined by CCMC, work-hardening programs are "highly structured, goal-oriented, and individualized intervention programs that provide clients with a transition between the acute injury stage and a safe, productive return to work. Treatment is designed to maximize each individual's ability to return to work safely with less likelihood of repeat injury. Work-hardening programs are multidisciplinary in nature and use real or simulated work activities designed to restore physical, behavioral, and vocational functions. They address the issues of productivity, safety, physical tolerances, and worker behaviors." Work-hardening sessions are generally provided in 4-hour sessions, 3 to 5 days a week for a period of 4 to 6 weeks.

Cognitive Rehabilitation Therapy

Cognitive rehabilitation therapy is the process of relearning cognitive skills that have been lost or altered as a result of damage to brain cell chemistry. If skills cannot be relearned, then new ones have to be taught to enable the person to compensate for his or her lost cognitive functions.

REHABILITATION PRACTITIONERS

The integrated multidisciplinary teams that advance the primary goals of the rehabilitation process include but should not be limited to:

Patient, Family, Support System

The patient and family are at the core of every rehabilitation program. In addition to identifying the specific rehabilitation program that most appropriately meets the patient's needs, the patient and family are charged with advancing the patient's commitment to

establishing and achieving rehabilitation goals that are unique to the patient and the support system that surrounds the patient.

Neurologists/Neurosurgeons

Patients who experience a disease, disorder, or injury to the nervous system may require the interventions of a neurologist or neurosurgeon to effectively manage the assault to the neurological system that prompted the need for rehabilitative services.

Orthopedic Surgeon/Orthopedist

With the focus of many rehabilitation programs being the restoration of physical disabilities that might be associated with an orthopedic injury or surgical intervention, the rehabilitation team may include an orthopedist or orthopedic surgeon.

Physiatrist

A physician who is primarily responsible for physical medicine and rehabilitation. Working in partnership with the patient and his or her support system, the physiatrist directs other members of the multidisciplinary team to facilitate comprehensive assessments of the patient's abilities and disabilities in order to establish a specific patient-focused rehabilitative plan.

Internists and Primary Care Physicians

In some rehabilitative environments of care, internists rather than physiatrists may direct the rehabilitation team. The physician the patient generally sees in the community setting or the primary care physician (PCP) may also be considered a member of the rehabilitation team as that physician will support the patient as the patient transitions back to the community environment. It is essential that detailed and accurate information regarding patient status be communicated to the PCP in a timely manner in order to advance care coordination through and across each transition of patient care.

Other Specialty Physicians

Disease-specific rehabilitation programs are generally guided by specialty physicians with knowledge and expertise in treating the targeted disease state. A cardiologist traditionally directs cardiac rehabilitation while pulmonary rehabilitation programs require oversight from a pulmonologist. Rheumatologists, geriatricians, and chiropractors have also been identified as members of a multidisciplinary rehabilitation team.

Neuropsychologist

A neuropsychologist assesses cognitive and behavioral status and performs psychological and neuropsychological testing. The neuropsychologist assists in the development of a patient-specific rehabilitation plan that addresses specific interventions to support cognitive and behavioral management and improvement.

Rehabilitation Nurse

A registered professional nurse who performs or supervises the performance of direct patient care. The nursing staff coordinates patient education regarding medical and health issues and performance of health-related tasks such as catheterization skills, bowel and

bladder programs, as well as skin and wound management techniques. According to the Association of Rehabilitation Nurses, the role of the nurse who advances the rehabilitative needs of the patient includes:

- Assessing the biopsychosocial needs of the patient and family or support system as the patient moves through the rehabilitation continuum
- Advancing patient-centered goals that promote attainment of the patient's "medical, vocational, educational and environmental needs"
- Participating in the development of a transitional care plan that, in part, supports the ability of the patient and/or their caregivers to understand and to execute all aspects of a continuing care plan with a targeted focus on maintaining, restoring, and enhancing function while minimizing complications that might compromise the patient's ability to achieve established goals
- Supporting, through education and other processes, the ability of the patient and the family to understand and perform each aspect of the transitional care plan.

Respiratory Therapist

A respiratory therapist assesses the patient's respiratory status and facilitates the effective and efficient maintenance of pulmonary function in order to minimize any potential respiratory complications associated with inactivity. He or she partners with other team members to increase the patient's pulmonary tolerance during increased physical activities.

Physical Therapist

The physical therapist seeks to restore function, improve mobility, relieve pain, and prevent permanent physical disabilities for patients following an injury or occurring as a result of a disease process. Physical therapists work collaboratively with occupational therapists to improve patient strength, balance, and the ability to master necessary skills related to the performance of daily living activities.

Occupational Therapist

The occupational therapist evaluates a patient's ability to perform essential activities of daily living. If task performance proves to be too difficult or too painful for the patient to perform, occupational therapies may identify strategies to modify task performance or utilize adaptive strategies and technologies to enable task completion.

Speech and Language Pathologist

The speech and language pathologist addresses the prevention, diagnosis, and treatment of a variety of communicative and swallowing disorders. Speech and language pathologists seek to direct the team regarding patient-specific communication techniques and communication deficits, strategies to cue or refocus a patient in order to facilitate effective patient education, and appropriate methods for addressing swallowing disorders in order to achieve safe oral nutrition.

Audiologist

Audiologists address receptive communication disorders including the prevention, identification, and measurement of hearing loss. An audiologist may also assist in the treatment of individuals with balance disorders.

Cognitive Behavioral Therapist

Cognitive behavioral therapists use psychotherapy techniques to focus on identifying, understanding, and changing thinking and behavioral patterns that compromise the patient's ability to manage anxiety, depression, posttraumatic stress disorder, and other cognitive and behavioral health disorders that impact the patient's ability to effectively move through the rehabilitation continuum.

Dietician

Dieticians assess the patient's current nutritional status and, in collaboration with other team members, develop a dietary regimen that promotes adequate nutrition during the rehabilitative process. The dietician also educates the patient and the patient's support system regarding appropriate dietary restrictions or enhancements as the patient transitions to the community environment of care.

Rehabilitation Engineer

Rehabilitation engineers use the systematic application of technologies to meet the needs of and address the barriers experienced by patients with disabilities in all aspects of daily living including employment, transportation, independent living, and recreation.

Therapeutic Recreational Specialist

Therapeutic recreational specialists focus on community reintegration and advancing the patient's ability to enjoy leisure activities and to advance participation in a satisfying lifestyle.

Music Therapist

Music therapists use music within a therapeutic relationship to address the patient's physical, emotional, cognitive, and social needs. Following the completion of a comprehensive assessment, music therapists provide treatment modalities that may include singing, moving to, or listening to music.

Rehabilitation Counselor

Rehabilitation counselors work collaboratively with an individual with a disability to understand existing problems, barriers, and potentials in order to facilitate the patient's effective use of personal and environmental resources for personal, social, career, and community adjustment.

Prosthetist

A prosthetist measures, designs, fabricates, fits, or services prosthetic devices and assists in the formulation of a prosthesis prescription in order to facilitate the replacement of external parts of the human body lost due to injury, amputation, or congenital deformities.

Orthotist

An orthotist measures, designs, fabricates, fits, or services orthoses and assists in the formulation of an orthosis to support or correct disabilities.

Vocational Rehabilitation Specialist or Counselor

Vocational rehabilitation specialists or counselors seek to evaluate the impact of illness or injury on the patient's ability to return to work. They partner with the team to develop strategies or adaptations that will allow the patient to return to previous employment or advance opportunities for education or training that might enable employment in another field.

Child Life Specialist

Child life specialists work in acute and postacute environments to assist infants, children, youth, and families cope with the stress and uncertainty of illness, injury, treatment, and rehabilitation.

Chaplain

Chaplains support the spiritual and religious needs of the patient. They advance the team's ability to consistently understand and meet patient-specific spiritual needs.

Social Worker

Social workers offer emotional support and identify alternative funding resources and community agencies that advance the patient's ability to achieve identified transitional care goals.

Social Programs

Social programs consist of programs such as employee assistance programs, Alcoholics Anonymous, SMART Recovery, Narcotics Anonymous, and Secular Organizations for Recovery.

Case Manager, Care Manager, and Transitional Care Manager

Case managers, care managers, and transitional care managers serve to assess, plan, facilitate, and advocate for the patient's appropriate movement through the health care continuum.

CASE MANAGEMENT ROLES AND FUNCTIONS

CARF provides specific information regarding case management interventions within the medical rehabilitation system. Describing the case management role as proactively "coordinating, facilitating, and advocating for seamless service delivery for persons with impairments, activity limitations, and participation restrictions." Additionally, CARF details a number of case management functions including:

- Performance of initial and ongoing assessments
- Knowledge and awareness of care options and linkages
- Promoting the efficient and effective use of resources
- Coordinating the development of individualized transitional care plans based on the needs of the individual served

TRAUMATIC BRAIN AND SPINAL CORD INJURIES

Although the underlying disease states or injuries that might prompt the need for rehabilitative services are varied, two common injuries that require the support and intervention of a case manager include acquired brain injuries and spinal cord injuries. Acquired brain injuries include all types of TBIs and other brain insults such as cerebral vascular accidents and anoxic encephalopathy. Acquired brain injuries are not congenital, hereditary, degenerative, or caused by trauma during birth. Although TBI may be considered an acquired brain injury, the Brain Injury Association of America offers a unique definition of TBI as follows: "an alteration in brain function, or other evidence of brain pathology, caused by an external force." A TBI may cause temporary or permanent impairment of cognitive, physical, and psychosocial functions as well as a diminished or altered state of consciousness. It is estimated that TBI touches over 2 million Americans each year and the Centers for Disease Control and Prevention (CDC) estimates that 3 to 5 million people in the United States are living with a disability related to a brain injury.

Common forms of brain injury include:

- Concussion—A complex neurobehavioral syndrome resulting from a traumatic injury to the brain. It is characterized by a transient alteration in brain function that may include a change in mental status or level of consciousness.
- Contusion—A bruising of or bleeding within the brain.
- Coup–contrecoup injury—Commonly, a contusion of the brain related to a pattern of injury in which damage to brain tissue may occur both at the site of injury and on the opposite side of brain.
- Penetrating injury—A wound in which a projectile breaches the cranium.
- Diffuse axonal injury—An injury that is not limited to one specific area of the brain but rather impacts a widespread area of the brain. Damage is generally associated with a shearing injury of axons within the brain that causes disruption of chemical messaging and/or the death of brain cells.
- Anoxic brain injury—Damage to or death of brain tissue associated with diminished oxygen levels within the brain.

The degree of intensity of a brain injury may vary from mild to severe. One method of evaluating that severity is a general evaluation of symptoms and evidence of injury gained through diagnostic testing. A mild injury is associated with brief loss of consciousness, posttraumatic amnesia of less than a few minutes, and normal results of brain imaging. Moderate severity is indicated by loss of consciousness for 1 to 24 hours, posttraumatic amnesia for more than a few minutes to 24 hours, and abnormal brain imaging. A severe injury might be identified if loss of consciousness or coma extends beyond 24 hours, posttraumatic amnesia exceeds 24 hours, and the results of brain imaging are abnormal. Severe brain injuries may be further categorized into

- Coma—A state of deep, unarousable unconsciousness.
- Vegetative state—"Complete unawareness of the self and environment, accompanied by sleep-wake cycles, with either complete or partial preservation of hypothalamic and brain-stem autonomic functions. No evidence of sustained, reproducible, purposeful, or voluntary behavioral responses to visual, auditory, tactile, or noxious stimuli." (Multi-Society Task Force on Persistent Vegetative State, 1994)
- Persistent vegetative state—"A vegetative state present one month after acute traumatic or nontraumatic brain injury or lasting for at least one month in patients

with degenerative or metabolic disorders or developmental malformations." (Multi-Society Task Force on Persistent Vegetative State, 1994)

- Locked-in syndrome—"Rare neurological disorder in which there is complete paralysis of all voluntary muscles except for the ones that control the movements of the eyes. Individuals with locked-in syndrome are conscious and awake, but have no ability to produce movements (outside of eye movement) or to speak (aphonia). Cognitive function is usually unaffected. Communication is possible through eye movements or blinking. Locked-in syndrome is caused by damage to the pons, a part of the brainstem that contains nerve fibers that relay information to other areas of the brain." (National Organization on Rare Disorders)

One method of uniformly describing the extent of loss of consciousness following a brain injury is the Glasgow Coma Scale (GSC). GSC measures three distinct categories of patient response in order to establish the conscious state of that patient. These categories include best motor, verbal, and eye-opening responses. The lowest score that can be identified is a 3, scores of 8 or less signify a severe injury, a score of 9–12 indicates a moderate injury, and scores of 13–15 reflect a mild injury.

Another tool utilized to evaluate a patient following a brain injury is the Ranchos Los Amigos Scale. This scale measures levels of awareness, cognitive function, behavior, and interaction with the environment. While the GCS is valuable in establishing the level of consciousness following an injury, the Ranchos Los Amigos Scale assists in establishing the patient's level of cognition and exhibited behaviors that may indicate the medically necessary level of care, services, and interventions the patient may require at each stage of the rehabilitative process.

GLASGOW COMA SCALE

Best Eye Response (4)

1. No eye opening
2. Eye opening to pain
3. Eye opening to verbal commands
4. Eyes open spontaneously

Best Verbal Responses (5)

1. No verbal response
2. Incomprehensible sounds
3. Inappropriate words
4. Confused
5. Oriented

Best Motor Response (6)

1. No motor response
2. Extension to pain
3. Flexion to pain
4. Withdrawal from pain
5. Localizing pain
6. Obeys commands

Documentation of GCS is best represented by E2V2M3 = GCS 7.

RANCHO LOS AMIGOS SCALE—REVISED

Level I: No Response—Total Assistance
Level II: Generalized Response—Total Assistance
Level III: Localized Response—Total Assistance
Level IV: Confused, Agitated—Moderate Assistance
Level V: Confused, Inappropriate, Non-Agitated—Maximal Assistance
Level VI: Confused, Appropriate—Moderate Assistance
Level VII: Automatic, Appropriate—Minimal Assistance for Daily Living Skills
Level VIII: Purposeful Appropriate—Standby Assistance

Spinal cord injuries are defined as damage to the integrity of the spinal cord due to degeneration, disease, or trauma. The severity of resulting deficits is directly associated with the location and the degree to which the axons within the spinal cord are affected. Spinal cord injuries are classified as complete or incomplete. If the ability of the spinal cord to serve as a conduit for information sharing between the brain and the rest of the body is not entirely compromised, the injury is described as incomplete. A complete spinal cord injury is a comprehensive interruption of those communication pathways with no sensory or motor function below the location of the specific damaged area of the spinal cord. Patients who experience a spinal cord injury in the cervical region of the spinal cord generally exhibit tetraplegia or paralysis/weakness of all extremities. Injuries to the spinal cord below the cervical level may result in paraplegia or paralysis or weakness of the trunk and lower extremities.

The level of physical and rehabilitative services required to assist the patient to achieve maximum potential is also directly related to the location of and the degree of compromise associated with the neurologic injury. Each component of the rehabilitative process is focused on the prevention of complications including respiratory compromise, infections, nonischemic heart disease, the maximization of physical function and skill-building capabilities, the provision of social and emotional support, and reintegration into the community, which may include vocational counseling.

In addition to diminished physical function, patients with a spinal cord injury may experience compromise of the autonomic nervous system. When the delicate balance between the sympathetic and parasympathetic nervous systems is disrupted, changes in blood pressure, temperature regulation, digestion, bowel and bladder elimination, and sexuality may occur. In patients with a spinal cord injury at or above the tenth thoracic vertebrae (T10), this imbalance may cause autonomic dysreflexia (AD) or autonomic hyperreflexia. AD occurs when the body is unable to efficiently communicate through the channels of the autonomic nervous system. For example, if the body and brain cannot communicate the need to evacuate a full bladder and associated pain or discomfort, the body sets in motion a process of compensatory actions including vasoconstriction that may cause significant hypertension. That sudden and dramatic increase in blood pressure may lead to migraines, diaphoresis, skin rash, blurred vision, bradycardia, stroke, seizures, organ damage, or death.

AD is a life-threatening complication of a spinal cord injury and each patient and their caregivers should be aware of the common causes including bladder pain related to a full bladder, kidney stones, or urinary tract infection; bowel problems such as constipation,

hemorrhoids, or flatulence; or skin issues such as pressure sores, ingrown toenails, sunburn, blisters, or constrictive clothing. Patients should also develop an action plan to address the symptoms of AD. Simple action plans generally include:

- Identifying and resolving the probable cause
- Checking blood pressure
- Following instructions provided by the attending physician including pharmaceutical interventions
- Calling 911 if signs and symptoms of AD continue
- Informing family and caregivers of common symptoms of AD and the steps they might take to provide assistance

ASSISTIVE DEVICES

The Americans with Disabilities Act defines an individual with a disability as:

- A person who has a physical or mental impairment that substantially limits one or more major life activities,
- A person who has a history or record of such an impairment, or
- A person who is perceived by others as having such an impairment.

The CDC estimates the number of Americans that meet this definition of disability to be 53 million, with approximately 2.2 million people using a wheelchair for mobility and another 6.5 million Americans utilizing a cane, walker, or crutches to assist them with ambulation. Wheelchairs, canes, walkers, and crutches are considered to be assistive devices, and many more devices and technologies are available to support those who have a qualified disability.

LEVELS OF SPINAL CORD INJURY AND RELATED FUNCTIONAL CAPABILITIES

Level	Functional Capabilities and Challenges
C1–3	Ventilator dependent, no neck control
C4	May need ventilator support, shoulder shrug/neck control
C5	Weakness of triceps, flexes elbow, severe weakness in trunk and lower extremities
C6	Uses shoulders and extends wrist, normal or good triceps, generalized weakness of trunk and lower extremities impairing balance
C7–8	Normal or good finger extension and flexion, some weakness of muscles that move the fingers and hands, generalized weakness of trunk and lower extremities impairing balance
T1–5	Full hand and finger control, abdominal paralysis or poor muscle strength, no useful trunk sitting
T6–10	Upper abdominal and spinal extension musculature, sufficient to provide some element of trunk sitting
T11–L2	No quadriceps or very weak, loss of sensation in hips and legs
L2–S5	Moderate to good quadriceps, ambulation with some support (S2–S5—loss of bowel and bladder control, loss of sensation in perineum)

According to the WHO, the primary purpose of assistive devices and technologies is to maintain or improve the function and independence of an individual in order to facilitate participation and to enhance overall well-being. The *Glossary of Terms* provided by CCMC defines assistive technology as "any item, piece of equipment, or product system, whether acquired commercially or off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities." CCMC also offers a definition of an assistive device: "any tool that is designed, made, or adapted to assist a person to perform a particular task."

The term *assistive technology* an umbrella broad term that includes "assistive, adaptive, and rehabilitative devices for people with disabilities, including the process used in selecting, locating, and using them." The use of assistive technology advances the patient's ability to perform activities and tasks that they may have previously been unable to complete. Additionally, assistive technology may enhance the ability to achieve completion of tasks that previously were difficult to accomplish. Those who experience physical or cognitive impairments and/or disabilities may benefit from the use of assistive technology.

Examples of assistive technology include:

- Mobility aids, such as wheelchairs, scooters, walkers, canes, and crutches, to enhance their mobility
- Hearing aids
- Magnifying glasses
- Automatic page turners, book holders, and adapted pencil grips
- Architectural modifications including ramps, automatic door openers, grab bars, and wider doorways
- Medication dispensers with alarms or other methods for advancing medication adherence
- Extendable reaching devices
- Cognitive assistive technologies including devices that prompt the user to perform certain tasks
- Tracking devices that use global positioning systems to locate a person who wanders

Adaptive technology is generally considered to be "any object or system that is specifically designed for the purpose of increasing or maintaining the capabilities of people with disabilities." Adaptive technology commonly refers to electronic and/or information technology tools that assist disabled individuals to perform tasks with greater ease, functionality, or independence.

Examples of adaptive technology include:

- Digital talking book players
- Closed-captioned programming
- Texting, text telephone, or telecommunication devices for the deaf
- Handheld amplifiers
- Adapted keyboards
- Other computer software and hardware, such as voice recognition programs, screen readers, and screen enlargement applications.

Rehabilitative technologies include "the systematic application of technologies, engineering methodologies, or scientific principles to meet the needs of and address the barriers confronted by individuals with disabilities in areas which include education, rehabilitation, employment, transportation, independent living, and recreation."

Examples of rehabilitative technology represent any technologies that help people recover function after injury or illness and include the following:

- Robotics—to advance the ability to regain or enhance function of the extremities
- Virtual reality—to support the retraining of muscles through the performance of motions within a virtual environment
- Musculoskeletal modeling and simulations—computer simulations of the human body to identify specific mechanical problems in a person with a movement-related disability in order to design improved assistive devices
- Transcranial magnetic stimulation—to deliver magnetic impulses through the skull to stimulate the brain and to support the recovery of physical and cognitive function following a brain injury
- Motion analysis—videography of human motion with specialized computer software that analyzes the motion in detail to serve as a guide for physical therapy

Another concept associated with assistive technology is universal design or the development of technologies today that advance an accessible tomorrow for every member of the global community including those who have no disabilities and those who are disabled. Universal design advances the idea that all new environments and emerging products, to the greatest extent possible, should be usable by everyone regardless of their age, ability, or circumstance, providing the same means of use to all users, avoiding segregation and making the design appealing to all.

PROSTHETICS AND ORTHOTICS

Other devices that may serve as important components of the rehabilitative process are prosthetics and orthotics. A prosthetic is defined as an externally applied device designed to replace wholly, or in part, an absent or deficient part of the body in order to support the structural and functional characteristics of the neuromuscular and skeletal systems and/or afford a more aesthetic appearance. Prosthetics include devices to replace upper or lower extremity limbs, joints, and missing aspects of the face such as the nose, eyes, ears, teeth, or jaw. Other types of prostheses include breast implants, a wig or cranial prosthesis related to alopecia or following chemotherapy, eyeglasses or contact lenses immediately following cataract removal and lens implantation, and cochlear implants as well as other surgically implanted surgical devices.

Regardless of the type of prosthesis, each device is developed specifically to meet the structural, functional, or cosmetic needs of an individual patient. The allied health care professional who assesses each patient's functional requirements and unique needs in order to design, engineer, fit, and maintain prosthetic devices is a prosthetist.

Orthotic devices or orthoses are instruments applied to the body in order to align, support, immobilize, or mitigate deformities. These devices are also utilized to advance appropriate movement of the joints, spine, or extremities by supporting weak muscles and restoring muscle function. Applied to the outside of the body, orthotics may be prescribed by orthopedists, podiatrists, physicians, chiropractors, and/or therapists. Orthotics can be prefabricated and subsequently fitted to the patient or designed and engineered to meet the unique needs of a patient.

Orthotics generally encompass such devices as slings, braces, and splints, and include some over-the-counter devices such as orthotic insoles and heel pads. One common orthotic

device is an ankle foot orthotic (AFO). An AFO is a brace designed to support muscles, immobile joints, and/or correct the positioning of the foot and ankle. The device may be composed of metal, thermoplastic, or a combination of both materials and is generally associated with the management of foot drop.

The allied health care professional who assesses each patient's functional requirements and unique needs in order to design, fabricate, fit, and maintain orthotic devices is an orthotist. Other allied health care professionals who advance the prosthetic or orthotic needs of a patient include:

- *Pedorthist*—Focuses on the provision of a patient-specific assessment of the foot and lower limb in order to design, manufacture, and fit custom foot orthotics
- *Mastectomy fitter*—Provides breast prosthesis and postmastectomy services including the fitting, adjustment, or modification of those devices
- *Orthotic and prosthetic assistant*—Functions under the direction of a prosthetic or orthotic professional to support the fabrication, repair, or maintenance of devices in order to achieve maximum fit and function while advancing the patient-specific goals of therapy
- *Therapeutic shoe fitter*—Trained to provide noncustom therapeutic shoes and inserts

The American Board for Certification in Orthotics, Prosthetics and Pedorthics is an organization with a mission of establishing and advocating for the highest patient care and organizational standards in the provision of safe and effective orthotic, prosthetic, and pedorthic services. Case managers who partner with patients who may require the interventions and services provided by these allied health care professionals may wish to confirm that all providers of services are certified or are seeking certification.

ASSESSMENT OF PHYSICAL FUNCTION

In order to advance the ability of each unique patient to efficiently and effectively move through the health care continuum with a constant and targeted focus on patient-centered goals, every rehabilitation plan must include a comprehensive evaluation of the abilities and challenges the patient is experiencing. A baseline assessment of physical and cognitive function serves as a foundation of the rehabilitation plan and assists in benchmarking patient progress through and across each aspect of the rehabilitative process.

FUNCTIONAL ASSESSMENT

"Any systematic attempt to objectively measure the level at which a person is functioning in a variety of domains." (Unifrom Data System for Medical Rehabilitation)

"An objective measurement of a person's functional abilities in performing activities of daily living, including relevant psychosocial aspects."(International Encyclopedia of Rehabilitation)

Multidimensional, interdisciplinary process used to quantify an individual's physical, psychosocial, and cognitive challenges and capabilities in order to develop a comprehensive plan for rehabilitation and coordination of transitional services and interventions.

A comprehensive assessment of physical, psychological, and cognitive function to identify functional deterioration or deficits. The assessment process also includes identification of potential complications that may arise secondary to known functional deficits.

One instrument utilized to measure functional capabilities is the FIM Instrument. Although initially called the Functional Independence Measure, this validated tool is more commonly referred to as FIM or the FIM Instrument. Based on information provided within the Rehabilitation Measures Database, FIM "provides a uniform system of measurement for disability based on the *International Classification of Impairment, Disabilities and Handicaps*; measures the level of a patient's disability: and, indicates how much assistance is required for the individual to carry out activities of daily living." FIM offers a measurement of 13 motor tasks and 5 cognitive functions, with each item scored within a range of 1 (total assistance as defined by an inability to perform more than 25 percent of the task) to 7 (total independence). Final scores range from a low of 18 to a high of 126.

The 18 categories assessed include the level of assistance required to:

- Transfer—tub/shower; bed, chair, wheelchair; toilet
- Toilet—bladder and bowel sphincter control
- Self-care—eating, grooming, bathing, upper body dressing, lower body dressing, toileting
- Locomotion—ambulation or wheelchair, stair climbing
- Cognition—expression and comprehension
- Social cognition—problem solving, social interaction, memory

Granted by a royalty-free license, CMS incorporated a modified version of FIM into the Inpatient Rehabilitation Facility Patient Assessment Instrument (IRF-PAI). Completion of the IRF-PAI is required by CMS as a component of the Inpatient Rehabilitation Facility Prospective Payment System. The IRF-PAI is utilized to classify the beneficiary into a specific case mix group (CMG). CMG is one aspect in establishing a prospective payment for rehabilitative services.

The FIM Instrument is dedicated to the assessment of disabilities in adult patients age 18–64 and in elderly adults over age 65. Another assessment instrument is the WeeFIM. This validated tool advances the measurement of functional abilities of children aged 6 months to 7 years and children with developmental disabilities aged 6 months to 21 years. Similar to the FIM, the WeeFIM is an 18-item scale of physical and cognitive function that measures self-care, mobility, and cognition.

FUNCTIONAL CAPACITY EVALUATION

CCMC defines a functional capacity evaluation (FCE) as a "systematic process of assessing an individual's physical capacities and functional abilities. The FCE matches human performance levels to the demands of a specific job or work activity or occupation. It establishes the physical level of work an individual can perform. The FCE is useful in determining job placement, job accommodation, or return to work after injury or illness. FCEs can provide objective information regarding functional work ability in the determination of occupational disability status."

Other definitions of an FCE include:

- A valid and reliable measure of the physical and functional ability of a person to perform a work-related series of tasks
- A comprehensive evaluation to determine a person's physical functional limitations and capabilities
- A collection of objective tests and activities used to assess a person's work-related capabilities and limitations

- A systematic process of measuring an individual's capacity to sustain performance in response to physical and/or work-related demands and requirements
- An objective measurement of the ability of an individual to perform functional or work-related tasks. The evaluation may also include an opinion regarding the individual's potential for sustaining those tasks over a specific timeframe.

An FCE is generally facilitated by a physical or occupational therapist in collaboration with an independent physician who is not directly involved in the delivery of care to the patient. The therapist providing the FCE should have specific expertise in the delivery of the battery of tests and assessments required to identify the patient's abilities, limitations, and behavioral obstacles that are associated with the performance of necessary work-related responsibilities or activities of daily living.

An FCE is also used to develop a treatment program, to measure the physical abilities of a patient before and/or after a rehabilitation program, to modify a rehabilitation treatment plan, to evaluate whether an injured worker can return to work, to determine a timeline for when that patient might successfully return to work, or to assess an employee's ability to successfully complete specific primary job functions.

An FCE may be focused on general activities of daily living or common work-related tasks. A job-specific FCE focuses on an individual's ability to perform the physical activities associated with the completion of required work-related tasks or major job functions. The evaluation may be performed within a clinical/therapy environment or occur at the work site with the goal of determining the ability of an individual to safely complete work activities and/or recommending any participation restrictions or job modification.

A comprehensive FCE requires at least four hours to complete and may be provided over one or more days. Components of an FCE generally include:

- A brief history of illness and/or injury as well as a physical examination to, in part, identify underlying physical conditions that might prevent or limit full participation in test activities
- Musculoskeletal and cardiovascular screening and a kinesiological/biomechanical assessment
- Testing basic functional abilities and, when appropriate, the ability to perform job-specific tasks
- Assessment of behaviors that might interfere with physical performance such as the level of pain, consistency of effort, or exaggeration of symptoms
- Documentation of results and, in some cases, offering recommendations for job modifications or for additional interventions that might improve the physical capabilities of the individual

WORKERS' COMPENSATION INSURANCE

Workers' compensation is a type of insurance that provides payments to employees associated with injuries and disabilities incurred in the course of employment in exchange for relinquishing their right to sue the employer for negligence. Before the enactment of legislation compelling employers to insure their employees for any injuries sustained in the course of their employment, the employee had the right to sue his or her employer to obtain damages for such injuries. The employee had an uphill battle in proving that he or she was not responsible for the accident (contributory negligence), that no fellow worker

was responsible (fellow servant rule), and that the accident was not a normal risk of the industry (assumption of risk). The worker also had to prove the nature and extent of the injury. Employers aggressively defended themselves against these suits, and countersuits were advanced, claiming employee negligence. The workers' legal forays were expensive, time-consuming, and resulted in a very small number of successful suits. Injured workers and their families suffered serious financial, social, and psychological consequences in this system.

Due to the number of injuries and subsequent lawsuits, the U.S. government encouraged employers to adopt some form of compulsory workers' compensation insurance. In 1908, President Taft advanced compensation for work-related injuries for workers who were engaged in interstate commerce. This federal action made workers' compensation the oldest form of social insurance in the United States. Enactment of state workers' compensation laws ranged from enactment in Wisconsin in 1911 to passage in Mississippi in 1948. Based on those legislative actions, compensation scales were established for accidental injuries arising out of and in the course of employment, that is, the injury or illness occurred while the employee was at work and was caused by a work-related task. Workers' compensation benefits are awarded to the worker regardless of who was responsible for the accident.

Workers' compensation insurance was designed as a contract between the employer and employee to provide a no-fault source of insurance for work-related injuries with benefits payable in the case of death, total disability, or partial disability. Although specific benefit coverage varies by states, these benefits generally include the cost of medical care attendant to treating the illness or injury as well as some percentage of lost wages. Employees are entitled to the level of benefits mandated by the state without regard to the financial status or desires of the employers. Employers may be required by statute to either purchase private or state-funded insurance or to self-insure in order to assure the availability of the full level of benefits mandated by the state's workers' compensation commission. It should be noted that workers' compensation plans are exempt from ERISA (Employee Retirement Income Security Act of 1974) mandates.

Although workers' compensation is most commonly associated with injuries that arise out of and in the course of employment, occupational diseases and cumulative trauma are also considered to be compensable in most jurisdictions. Occupation diseases include but are not limited to respiratory cancers or compromise associated with inhaling toxic or carcinogenic substances in the workplace; occupational skin diseases due to sunburn, constantly wet hands, or the repeated use and removal of gloves; and infectious diseases that are due to hazards in the work environment such as blood-borne diseases in hospitals. Repetitive motion or cumulative trauma injuries may also be compensable under workers' compensation statutes. Examples of a cumulative trauma injury include carpal tunnel syndrome, tendonitis especially of the elbow and shoulder, and low back pain.

Workers' compensation is the exclusive remedy to a worker's entitlements. If the worker is covered by workers' compensation insurance, he or she is excluded from claiming benefits for a covered injury under a group insurance policy and, further, is generally precluded from bringing suit against his or her employer for work-related injuries. That said, the injured worker or their employer may sue a third party who has some responsibility for causing the injury. An example might be a delivery truck driver who is legally stopped at a traffic light and experiences an injury due to a collision caused by a driver who is not using reasonable care to avoid an accident. Either the employer or the injured employee may seek damages from the person who is deemed to be at fault.

Civilian employees of the federal government are also covered under workers' compensation benefits. The federal government has its own workers' compensation program, and federal employers are subject to this system's requirements, statutory constraints, and benefit schedule. The Federal Employees' Compensation Act is administered by the Office of Workers' Compensation Programs, a division of the U.S. Department of Labor. This agency provides workers' compensation coverage to 3 million federal and postal workers around the world for employment-related injuries and occupational diseases. Benefits include wage replacement, payment for medical care, and, when necessary, medical and vocational rehabilitation assistance in returning to work.

Railroad workers and seafarers have workers' compensation programs that differ from state and federal programs. Injured employees of a railroad that engages in interstate commerce are covered under the Federal Employers' Liability Act (FELA) of 1908. This Act provides that a carrier (railroad company) "shall be liable" to an employee who is injured by the negligence of that carrier, a fellow employee, or a manufacturer of any equipment that might have contributed to the injury. The FELA remedy is based on ordinary negligence law, not the no-fault law typical of other workers' compensation programs. FELA also allows payments for pain and suffering. The amount of the payments is decided by a jury and is based on comparative negligence rather than a predetermined benefits schedule under workers' compensation.

In 1920 the federal government passed the Merchant Marine Act, more commonly known as the Jones Act, named after the legislation's sponsor, Senator Wesley L. Jones of Washington. It regulates maritime commerce in U.S. waters and between U.S. ports. It also affirms the rights of seamen working on U.S. vessels and, in some circumstances, those who work on certain types of offshore oil rigs. Based on the Jones Act, a seaman who is acting in the course of his or her employment as a crewmember may seek compensation for a work-related injury if the employer is found negligent and that negligence was the cause of the injury. The Jones Act is also a comparative negligence law in that it allows for the consideration of any negligence on the part of the employee when establishing benefit coverage.

In all instances, the type and degree of compensation associated with work-related injuries or occupational disease are, in some manner, regulated by legislative actions. For the case manager, this requires an additional understanding of both the rights of the injured employee and the employer. Case managers who function within the workers' compensation arena generally serve as a liaison between the injured worker, the insurance carrier, the physician, and other providers of rehabilitation care and services. Case managers, with permission of the injured worker, may also attend physician appointments or therapy sessions. As in all case management interventions, the goals of the case management process include coordination of a treatment plan that facilitates the delivery of quality, appropriate care that balances fiscal responsibility with patient advocacy. Additionally, the primary functions of the case management process including assessment, planning, collaboration, implementation, monitoring, and evaluation, serve to advance the goal of facilitating the injured employee's return to work or advancing the achievement of maximum medical improvement.

In order to advance the goals that are specific to care coordination for the injured worker, the case manager partners with the claims adjuster who serves as a representative of the payor. In the workers' compensation arena, the adjuster is charged with the receipt, review, evaluation, and resolution of the claim. The claims adjuster is generally

the primary contact between the payor and the case manager; giving approval for case management services; and adjudicating the workers' compensation claim.

In some cases, the claims adjuster may request an independent medical evaluation (IME) in order to facilitate an independent assessment of and opinion regarding the extent of an injury. An IME is performed by an objective and qualified physician who has successfully completed IME training and has not previously provided care to the individual being evaluated. Common aspects of an IME include:

- A review of the history of the injury as well as occupational and socioeconomic history
- A review of associated diagnostic testing with findings
- A comprehensive review of treatment and associated outcomes of those treatments
- A physical examination—if no physical examination is performed, the review is considered an independent medical review
- An opinion regarding diagnosis including the scope and nature of the disability and prognosis
- The generation of a comprehensive written report that details findings

In some cases, the IME will include an impairment rating. An impairment is defined as a significant deviation, loss, or loss of use of any body structure or body function in an individual with a health condition, disorder, or disease. An impairment rating is an estimate of impairment based on acceptable medical standards and represented by a percentage value. An impairment rating may be assigned to the body as a whole or to a specific body part and is utilized to determine permanent partial disability benefits.

The process utilized to evaluate the level of impairment is an impairment evaluation. Generally performed after maximum medical improvement has been achieved, the evaluation follows guidelines offered by the American Medical Association in *Guides*

WORKERS' COMPENSATION TERMS

Capacity—The highest probable level of functioning a person may reach; measured in uniform or standard environment reflecting the environmentally adjusted ability of the individual.

Maximum medical improvement—The point at which an injured employee's medical condition has stabilized and further functional improvement is unlikely, despite continued medical treatment or physical rehabilitation.

Maximum medical recovery—The injured worker has improved to a point at which additional medical treatment will not provide further improvement of the condition.

Return to work—A release by the injured worker's treating physician indicating the injured employee is able to return to work at the preinjury wage or is able to return to preinjury work.

Permanent and total disability benefits (PTD)—Lifetime wage benefits may be payable if an individual loses both hands, arms, feet, legs, eyes, or any two in the same accident, or is paralyzed or disabled from a severe brain injury. Specific benefits and definitions of PTD may vary by state.

Permanent partial disability—An injury that causes an impairment impacting the ability to work but does not totally incapacitate the injured individual. The person may be able to work in some capacity.

to the Evaluation of Permanent Impairments, Sixth Edition. These guidelines advance the accurate measurement of the extent of impairment as related to normal functional capacity.

VOCATIONAL REHABILITATION

The Workforce Innovation and Opportunity Act of 2014 (WOIA) focuses on improving the development of the nation's workforce including assisting Americans with significant barriers to employment to find and to obtain high-quality jobs and careers. This legislative action also advances strategies to help employers hire and train skilled workers. The Act also advances the provision of federal grants to the states to provide comprehensive vocational rehabilitation programs. These state programs are charged with assessing, planning, developing, and providing "vocational rehabilitation services to eligible individuals with disabilities consistent with the individual's strengths, resources, priorities, concerns, abilities, capabilities, interests, informed choice, and economic self-sufficiency."(WOIA)

Eligibility for vocational rehabilitation is provided to an individual with a disability who has a physical or mental impairment that results in a substantial impediment to employment and requires vocational rehabilitation services to prepare for, secure, retain, or regain employment. Recipients of Supplemental Security Income (SSI) or Social Security Disability Income (SSDI) benefits are presumed eligible for inclusion in vocational rehabilitation programs unless there is strong evidence the individual would not benefit from them. In addition to publicly funded services, vocational rehabilitation may be funded by insurance plans or employers in order to advance an injured employee's return to work.

Vocational rehabilitation, no matter the funding source, is considered to be a multiprofessional approach that is provided to individuals of working age with health-related impairments, limitations, or restrictions with work functioning. The goal of the vocational rehabilitation process is to advance employment opportunities and other meaningful activities for an individual who has a functional impairment or disability. Vocational rehabilitation can also be defined as "a dynamic process consisting of a series of actions that follow a logical, sequential progression of services related to the total needs of a person with a disability. The process begins with case finding or referral and ends with the successful placement of an individual in employment." (CHAN et.al. 1997)

Each aspect of the vocational rehabilitation process is specifically designed to meet an individual's unique needs based on their functional capacity and identified impairment. Key aspects of a vocational rehabilitation program include

- A vocational assessment—A comprehensive review and evaluation of an individual's specific vocational abilities based on the administration and interpretation of testing tools and instruments that assess aptitudes, abilities, coping skills, interests, functional impairments, and psychosocial considerations of that individual. The assessment process may include validated testing tools that assess intelligence, cognitive function, interests, personality, vocational aptitude, and established work skills, knowledge, and abilities. The assessment process may also include the identification of any transferrable skills the individual may possess. A transferrable skills analysis identifies the knowledge, abilities, and talents acquired through previous employment and life experiences that might assist the individual to be successful in gaining additional employment opportunities.

- Counseling—Defined by the Commission on Rehabilitation Counselor Commission as "the application of cognitive, affective, behavioral and systemic counseling strategies which include developmental, wellness, pathologic and multicultural principles of human behavior." CCMC defines rehabilitation counseling as "A specialty within the rehabilitation professions with counseling being at its core. It is a profession that assists individuals with disabilities in adapting to the environment, assists environments in accommodating the needs of the individual, and works toward full participation of persons with disabilities in all aspects of society, especially work."
- Formulation of the individual plan for employment—In partnership with the vocational rehabilitation counselor, the individual will develop a specific pathway for achieving desired employment goals. This plan not only lists desired goals but also the steps and services required to reach those goals. Aspects of the plan might include vocational training, transportation services, strategies to assist students with disabilities to transition from school to work, reader services for the visually impaired, and/or assistive and rehabilitation technology services.
- Job analysis—Development of a detailed understanding of all the components and aspects of potential employment opportunities including the specific job description and essential job functions. The job analysis may also include a review of the work environment and working conditions, skills or training required to successfully meet identified responsibilities and functions, physical activities required to perform major job functions, and the level of intensity or strenuousness of physical activities associated with that role. The goal of a job analysis is to match the individual with a job that advances that individual's job-related goals and, when necessary, suggest any job modifications or accommodation that might support the achievement of success in maintaining employability.
- Job coaching—A process that provides one-on-one support and education for an individual in regard to performance of job duties based on the specific needs of both the perspective employee and the employee. Training is based on performance of a comprehensive job analysis and is generally available until the employee is able to perform major job functions independently and accurately.
- Job search and placement—One of the final steps in the vocational rehabilitation process is the identification of competitive employment opportunities that meet the individual's vocational needs and preferences. The vocational rehabilitation counselor may perform a labor market survey to identify employment opportunities in the individual's geographic area that reflect the skills, knowledge, and abilities displayed by that individual. Other aspects of the placement process may include: education regarding completion of a job application, resume writing, interviewing skills, short-term vocational training, and suggestions for job accommodations or job modifications.
- The vocational rehabilitation process may extend beyond the initial date of hire to provide support and retraining to the individual as required for that individual to retain employment and to be successful and satisfied within the workplace.
- The goals of vocational rehabilitation are not limited to the placement of the individual into a competitive employment but also facilitation of that individual's independence, integration, and inclusion into the community. The vocational rehabilitation counselor recognizes the unique abilities and assets that each person brings to the work environment while advancing the attainment of that individual's specific goals for employment.

TERMS ASSOCIATED WITH VOCATIONAL REHABILITATION AND RETURN TO WORK

Competitive employment—Employment in the regular labor market that is performed on a full-time or part-time basis in an integrated setting. Additionally, the employee is compensated at or above the minimum wage, but not less than the customary wage and level of benefits paid by the employer for the same or similar work performed by individuals who are not disabled.

Job accommodation—A reasonable adjustment to a job or work environment that makes it possible for an individual with a disability to perform job duties. Determining whether to provide accommodations involves considering the required job tasks, the functional limitations of the person doing the job, the level of hardship to the employer, and other issues. Accommodations may include specialized equipment, facility modifications, adjustments to work schedules or job duties, as well as a whole range of other creative solutions. The Job Accommodation Network, a service of the Office of Disability Employment Policy, provides a free consulting service on workplace accommodations.

Reasonable accommodation—Any modification or adjustment to a job or the work environment that will enable a qualified applicant or employee with a disability to participate in the application process or to perform essential job functions. Reasonable accommodation also includes adjustments to assure that a qualified individual with a disability has the rights and privileges in employment equal to those of employees without disabilities.

Supportive employment—Programs that afford those with severe developmental or behavioral health disabilities the opportunity for employment in viable and valid work scenarios with supportive assistance on-site and as needed. These services are tailored to the individual strengths and deficits of each person to facilitate learning and performance of required job functions.

Transitional work duty—Following an illness or injury, an employee may not be able to perform the essential functions of his or her job with or without a reasonable accommodation. In this case, temporary transitional work duty may be offered to the employee to facilitate a return to work. The transitional position is carefully developed to be appropriate for the knowledge, skills, and abilities of the employee without compromising that employee's physical status or the safety of that employee or others. Transitional work duty is temporary with an expectation that the employee will eventually return to full performance of his or her previous role.

PREVENTION OF WORK-RELATED ILLNESS OR INJURIES

In addition to addressing injuries that have occurred in the workplace, health care professionals who advance occupational health and provide disability management services endeavor to minimize or prevent work-related injuries. The U.S. Department of Labor, Occupational Health and Safety Administration (OSHA) defines an injury and illness prevention program as a proactive process to assist employers in finding and addressing workplace hazards before work-related illness or injury occurs. According to OSHA, these programs not only significantly reduce workplace injuries but also contribute to an enhanced workplace culture that advances productivity and quality while promoting greater employee satisfaction.

Although components of an illness and injury program are specific to each unique workplace and the employee's role within that place of employment, health and safety programs generally include: participation by management, leadership, and employees;

hazard identification and assessment; hazard prevention and control; education and training; and ongoing program evaluation and improvement. Examples of safety initiatives commonly include machine guarding to protect workers from dangerous parts of that machinery; eye, face, and hearing protection; protection of extremities such as hand, arm, foot, and leg protection; establishing parameters of safety surrounding moving equipment; safety lines and harnesses to prevent falls; hard hats; respirators to prevent the inhalation of contaminants in the air; and routine and continuous inspection of every work environment with a focus on the identification of hazards.

Another strategy commonly used to prevent or mitigate work-related injuries is the ergonomic design of the workplace. Ergonomics is defined by CCMC as "the scientific discipline concerned with the understanding of interactions among humans and other elements of a system. It is the profession that applies theory, principles, data, and methods to environmental design (including work environments) in order to optimize human well-being and overall system performance." Ergonomics, which is considered to be "fitting the job to the individual performing that job" assists in reducing muscle fatigue, musculoskeletal injuries, and other types of repetitive motion injuries such as carpal tunnel syndrome. Examples of ergonomic initiatives, designs, and adapted equipment include: adjustable and detachable keyboards, adjustable desk heights, training in appropriate lifting techniques and the use of lifting devices or hoists, chairs with a cushioning effect for the back as well as adjustable hand rests and height, and workstations that support a neutral body position in order to reduce muscle stress.

ROLE OF THE CASE MANAGER

The provision of case management interventions for the patient who requires rehabilitative services follows the roles and responsibilities that are clearly detailed within applicable Standards of Practice. The Standards of Practice for Case Management as presented by the Case Management Society of America define the practice of case management as follows:

"Case management is a collaboration process of assessment, planning, facilitation, care coordination, evaluation and advocacy for options and services to meet an individual's and family's comprehensive care needs through communication and available resources to promote patient safety, quality of care and cost-effective outcomes."

No matter the patient's diagnosis or continuing care requirements, the case manager is charged with providing case management interventions within this definition while maintaining an awareness of the required duties and responsibilities guiding that practice. For the patient that might benefit from rehabilitative services, the case manager is required to perform a comprehensive assessment of the patient's physical, behavioral, and social status and continuing care needs. Based on that assessment and in collaboration with the multidisciplinary treatment team as well as the patient/family, a rehabilitation plan is developed. The plan reflects specific measurable and realistic goals for rehabilitation that have been identified by the patient. The choice of rehabilitation services and the preferred site for delivering that care are not solely based on funding of those services but also which services and specific rehabilitation facility might be successful in advancing the achievement of identified goals. Patient preference guides the transitional care process with the type and location of rehabilitative services determined by the patient/family.

Often, there may be a handover of care coordination as the patient moves from acute to postacute care. The consistent delivery of case management services should not be

interrupted, and just as continuity of care requires a sharing of information across sites of care so too must the case management process span the care continuum. If multiple case managers serve as representatives of the payor or the provider or have been independently contracted by the patient and/or family, each case manager serves as an integral member of the rehabilitation team and, as such, is required to develop mutual avenues for collaboration.

Case managers are also charged with monitoring the patient's progress in achieving identified goals. If goal achievement is not successful, the case manager might facilitate a discussion of options that support the patient's current rehabilitative status and, in partnership with the multidisciplinary team, offer alternative rehabilitation options.

If the patient experiences a disability that is considered permanent, the case manager might seek further information regarding options and services that advance the patient's ability to be successful in a community or home environment. Home modifications adapt living spaces to meet the needs of disabled individuals in order to support independent living and promote safety. Some forms of home modification require making structural changes to the home such as widening doorways, making bathrooms and showers accessible, or constructing ramps.

According to the Rehabilitation Engineering and Assistive Technology Society of North America, home modifications should improve:

- Accessibility—ability to gain access to the residence and areas within that home. This might include clearing spaces to allow clear movement of a wheelchair or walker, placing light switches at heights that can be easily reached, and lowering countertops, sinks, or other food preparatory areas to wheelchair height. These architectural changes are generally costly and must conform to regulatory or building codes.
- Adaptability—considered changes that can be achieved without a complete redesign of the home environment and may include grab bars in bathrooms, moving rugs or increasing lighting in stairwells to prevent falls, and raising the height of a bed to facilitate easier access to and from the bed.

Before a patient transitions from acute or postacute rehabilitation environments of care to community-based living environments or the home, the patient and/or family might wish to discuss architectural barriers or safety concerns that might exist in those environments with the multidisciplinary treatment team. Additionally, there are a number of home modification or safety checklists that are available for the patient/family to consider in order to advance patient safety and accessibility. One such list is available from the National Caregivers Library at http://www.caregiverslibrary.org/Portals/0/ChecklistsandForms_HomeModificationChecklist.pdf. Another safety checklist was developed by the American Occupational Therapy Association and the Administration on Aging. That checklist is available at https://www.aota.org/-/media/Corporate/Files/Practice/Aging/rebuilding-together/RT-Aging-in-Place-Safe-at-Home-Checklist.pdf.

Although financial support for home modifications is not generally available through health insurance, long-term care insurance, disability insurance, a catastrophic accident insurance plan, or auto insurance may offer some benefit coverage that can be utilized to fund these services.

Workers' compensation is considered to be a form of indemnity insurance that offers specific coverage based on the terms of the plan and the legal mandates of state and federal regulatory agencies. As such, the cost of home modifications may be covered by workers' compensation insurance in certain situations. If the insured has experienced a catastrophic

injury and experiences a permanent disability, the insurance carrier may provide coverage for home modifications that are deemed necessary to meet the disabled worker's need for a living environment that is accessible, safe, and facilitates daily living activities.

LIFE CARE PLANNING

When an injured employee is identified as permanently disabled, the continuing cost of care may be a responsibility of the workers' compensation carrier. In order to assure the availability of funding to meet that permanently disabled worker's health care needs over time, the payor identifies specific financial reserves for the case. Defined as an amount of money set aside to meet future payments associated with claims incurred but not yet settled, the calculation of reserves required to meet the needs of a specific worker may require the services of a life care planner.

According to the International Academy of Life Care Planners, a section of the International Association of Rehabilitation Professionals, life care planners represent diverse fields of practice including case managers, vocational rehabilitation counselors, rehabilitation nurses, physical therapists, occupational therapists, social workers, physiatrists, and rehabilitation psychologists. These rehabilitation professionals gather information from multiple sources to develop a comprehensive detailing of the disabled individual's immediate and lifelong health care needs and the projected costs associated with those disability-related needs. The narrative and precise detailing of those needs is considered to be a life care plan.

CCMC defines a life care plan as a "dynamic document based upon published standards of practice, comprehensive assessment, research and data analysis, which provides an organized, concise plan for current and future needs with associated costs for individuals who have experienced catastrophic injury or have chronic health care needs." The life care plan includes "on-going evaluations, therapies, diagnostic testing, medical and adaptive equipment, aids for independent functioning, prescription and nonprescription medications, home care/facility care, routine medical care, transportation, architectural modifications, potential complications, surgical intervention, and vocational services."

In addition to providing a detailed listing of current and future costs, a life care plan provides a comprehensive listing of anticipated future health care needs, details the current level of the individual's ability to function, and offers a long-term plan for care that reflects the health care goals and desires voiced by the patient/family/support system. Life care plans are also developed to serve as the basis for assigning the momentary value of medically related compensatory damages in court cases related to personal injury, medical malpractice, product liability, or motor vehicle accidents.

DISABILITY INSURANCE

Disability insurance is a form of property and casualty insurance that provides income protection to individuals who experience an inability to work due to illness or injury. Short-term disability policies offer income protection for a specific period of time detailed within the terms of the insurance policy, which generally does not exceed two years. Long-term disability provides a portion of lost earnings after the waiting period for benefits has been exceeded and may continue until the insured reaches age 65 or until the timeframe for receiving benefits has been reached.

All disability policies are subject to the terms of the specific plan and typically include:

- A specific definition of disability
  - Own-Occupation—The inability to perform the material and substantial duties of a regular occupation, which is the occupation performed at the time of the injury. If the insured returns to work in another occupation, benefits may continue.
  - Income replacement policy—Due to sickness or injury, the insured is unable to perform the material and substantial duties of his or her occupation and is not engaged in any other form of employment.
  - Gainful employment coverage—Due to sickness or injury, the insured is unable to perform the material and substantial duties of his or her occupation or any occupation for which the insured is deemed reasonably qualified by education, training, or experience.
- Guaranteed renewable and noncancelable—Policies may be renewed and cannot be canceled by the insurer except for nonpayment of premiums. Additionally, the premium may be increased if premiums are increased for other policyholders.
- Coordination of benefits—The specific amount of the benefit paid is the targeted amount detailed within the policy including disability payments from other sources.
- Cost of living—The amount of the benefit paid over time based on increased costs of living as provided by the Consumer Price Index.
- Waiver of premium provision—Some policies offer a waiver for payment of premiums based on the length of time a person is disabled.
- Waiting period—A period in which a person's illness or injury meets criteria for establishing disability and long-term disability payments are not available. The waiting period is often three to six months, which may correspond with the duration of short-term disability insurance.

Case managers as well as disability management specialists and vocational rehabilitation counselors may partner with the insured to facilitate attainment of medical improvement, which allows a return to previous employment or coordinates education and training that enables the insured to engage in another form of employment.

SOCIAL SECURITY DISABILITY INCOME AND SUPPLEMENTAL SECURITY INCOME

SSDI is available to disabled individuals and certain members of their families when the individual who is disabled is considered to be insured. For SSDI purposes, the definition of an insured is an individual who meets eligibility requirements based on sufficient payment of Social Security taxes. Supplemental Security Income (SSI) is available to disabled individuals based on financial need defined as limited income and few resources.

The definition of disability for both SSDI and SSI is based on an individual's inability to work as indicated by

- A medical condition that prevents an individual from performing the duties and responsibilities of previous employment or performing any type of work modified to accommodate the qualifying illness or injury.
- The qualifying disability is expected to continue for at least one year or result in death.

SSDI is funded by the Social Security Trust Fund and allows for certain members of a disabled individual's family to receive benefits based on the insured's work history. Eligible family members include a spouse over age 62 or a spouse of any age that cares for the beneficiary's child if that child is under age 16 or disabled, an unmarried child under age 18 or age 19 if still attending high school, or the unmarried child of the beneficiary who is deemed to be disabled and the disability was identified prior to age 22.

SSI is funded by the U.S. Treasury General Fund. Eligibility for SSI is based on limited income and resources and other requirements including age 65 or older, total or partial blindness, and having a medical condition that prevents an individual from working, which is expected to continue for at least one year or result in death. Children with disabilities may also be eligible for SSI benefits. The amount of SSI benefits may differ by state, with some states offering additional financial benefits to those receiving SSI payments. Those who are eligible for SSI may also qualify for Supplemental Nutrition Assistance and Medicaid.

Disability individuals who receive either SSI or SSDI benefits are also eligible for the Ticket to Work Program, which offers assistance with training in order to facilitate a return to work. Services are provided at no cost to the beneficiary.

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Test Questions

1) **When placing a patient who needs assistive devices due to a knowledge deficit in an alternative care setting, the most important thing a case manager should consider is**
   A. Whether the patient can self-feed
   B. Patient safety
   C. Location in relation to family
   D. Whether the facility has activities the patient enjoys

2) **A railroad worker who is injured on the job receives compensation under which of the following legislative actions?**
   A. The Mann Act
   B. The Jones Act
   C. Federal Employers' Liability Act
   D. Americans with Disabilities Act

3) **The case manager has been following an amputee in an inpatient rehabilitation program. The patient has been instructed in using her prosthesis and in caring for it and her limb. She is now ready for discharge. What need is most often overlooked when discharging this type of patient?**
   A. A follow-up appointment with the prosthetist
   B. A follow-up appointment with the surgeon
   C. The ability to drive a car
   D. The ability to solve problems for herself

4) **A job analysis includes the development of a detailed understanding of job opportunities including specific job descriptions and essential job functions in order to**
   A. Facilitate a timely return to previous employment.
   B. Match an individual with a job that advances that individual's employment goals.
   C. Minimize the liability of the workers' compensation carrier.
   D. Perform a reasonable accommodation of current job functions.

5) **Which of the following best describes a functional capacity evaluation?**
   A. A systematic process of assessing an individual's physical capabilities and functional abilities.
   B. An evaluation of an individual's capacity to carry out the physical activities required for workers' compensation.
   C. A process of collecting in-depth information about the patient and family.
   D. A process that utilizes selected indicators in order to establish the need for case management interventions.

6) **An adjustment to employment or a work environment that makes it possible for an individual with a disability to successfully perform job functions and responsibilities is**
   A. Supportive employment
   B. A transitional work duty
   C. A job accommodation
   D. A requirement mandated by the Americans with Disabilities Act

7) **Which of the following is true about workers' compensation?**
   A. Oldest social insurance program in the United States
   B. Funded through state employment tax programs
   C. Applies to employers with 20 or less employees
   D. Requires proof of negligence on the part of the employer

8) **A patient has reached maximum medical improvement when:**
   A. Continued treatment will no longer improve the current status.
   B. The physician signs a release to return to work.
   C. The patient is no longer adherent to the prescribed medical management plan.
   D. No additional rehabilitation is required.

9) **A process that assesses, analyzes, researches, and evaluates a patient's future medical, psychosocial, and economic needs is**
   A. Life care planning
   B. Care coordination
   C. Vocational rehabilitation
   D. Case management

10) **The case manager for workers' compensation is responsible to complete which of the following?**
   A. An analysis of essential job functions.
   B. Identifying financial support for the injured employee and family.
   C. Investigating the cause of the worked-related injury and in some cases, establishing fault.
   D. Monitoring the effectiveness of the case management plan.

11) **Worker's compensation minimally covers which of the following monetary responsibilities?**
   A. Medical care and payment of vacation time while injured.
   B. Percentage of employee salary and insurance premiums while injured.
   C. Hospital admissions, home care costs, and full salary with an estimation of typical overtime compensation.
   D. Medical care and a percentage of salary while injured.

12) **A program that uses real or simulated work activities to address the physical, behavioral, functional, and vocational needs of the injured worker is**
   A. A work-hardening program
   B. An occupational health assessment program
   C. A job analysis and restorative therapy program
   D. A vocational rehabilitation program

13) **The goals established within a case management plan are**
   A. Anticipated, acceptable, and appropriate
   B. Challenging and timely
   C. Patient-focused and cost-effective
   D. Realistic, measurable, and specific

14) The theory, principles, data, and methods associated with environmental design in order to optimize human well-being and overall system performance is
A. Feng shui
B. Architectural redesign and enhancement
C. Ergonomics
D. Adaptive technology

15) The systematic application of technologies, engineering methodologies, or scientific principles to meet the needs of and address the barriers confronted by individuals with disabilities in areas that include education, rehabilitation, employment, transportation, independent living, and recreation is
A. Adaptive technology
B. Assistive technology
C. Rehabilitative technology
D. Cyber technology

16) In addition to advancing quality and appropriateness of care for the injured worker, the case manager also seeks to advance care that facilitates the achievement of
A. Maximum medical improvement
B. The injured employee's individual employment goals
C. Client satisfaction
D. Improved outcomes for care

17) An objective measurement of a person's functional abilities in performing activities of daily living including relevant psychosocial aspects is
A. A functional assessment
B. A functional capacity evaluation
C. An independent medical evaluation
D. An impairment rating

18) Eligibility for vocational rehabilitation programs includes those individuals with a disability that causes a substantial impediment to further employment as well as those who
A. Are considered to be malingering or potentiating the severity of the initial injury.
B. Receive Supplemental Security Income or Social Security Disability Income.
C. Are actively participating in work-hardening programs.
D. Are considered to have a temporary total disability.

19) The specific scope of workers' compensation laws varies by state, with each individual state maintaining a board that regulates and has jurisdiction over workers' compensation claims. These regulatory agencies are generally referred to as
A. A Claim Adjudication Agency
B. An Insurance Review Board
C. A Workers' Compensation Board or Commission
D. An Industrial Review Board

20) A battery of standardized assessments that predict an individual's ability to perform the physical demands of a job as well as all work-related tasks is
A. A job analysis
B. A functional capacity evaluation
C. An impairment rating
D. An independent medical evaluation

21) A program that advances the delivery of necessary medical and vocational services in order to facilitate an injured worker's expedient return to suitable gainful employment with a minimal degree of disability is

A. A vocational rehabilitation program
B. An occupational health conditioning program
C. A workers' compensation program
D. A work-hardening program

22) The patient requires a ramp to facilitate entry and egress from the home environment. What type of insurance coverage might be available to assist in funding the cost of that home modification?

A. Medicaid
B. Group health coverage
C. Tricare
D. Long-term care insurance

23) Social security disability insurance is available

A. To disabled Americans who are unable to return to vocational endeavors due to a qualified disability that impacts a major life function.
B. When the insured individual has a qualified disability that is expected to last at least one year.
C. To a qualified individual when minimal financial inclusion requirements are met.
D. To adult children with a qualified disability even if the parent is not eligible for coverage based on work history.

24) Mr. Brown has a history of bipolar disorder and suffered an acquired brain injury due to a failed suicide attempt. He received rehabilitative services within a comprehensive integrated inpatient rehabilitation program and maximized potential for further functional improvement. The rehabilitation treatment team recommends discharge to an environment that offers medication management, independent advancement of independent living skills, and community integration services. Based on this recommendation, what type of program might be considered as a transitional care option?

A. Brain injury specialty program
B. Occupational and reintegration program
C. Medical rehabilitation program
D. Residential rehabilitation program

25) A disease-specific rehabilitation program that generally includes exercise training, nutritional counseling, energy-conserving techniques, breathing strategies, and behavioral health counseling is a

A. Cardiac rehabilitation program
B. Stress management program
C. Pain management program
D. Pulmonary rehabilitation program

26) **Jane is a 16-year-old female who experienced significant trauma including an acquired brain injury following a motor vehicle accident. Although traumatic injuries to the musculoskeletal system have resolved, she continues to exhibit aggressive sexual behaviors including hugging and trying to kiss all male members of the staff within the inpatient rehabilitation facility in which she is receiving treatment. Which type of rehabilitation facility might be a consideration for continued therapy following a transition from inpatient rehabilitation?**
   A. Assisted living environment
   B. Respite rehabilitation program
   C. Transitional living facility
   D. Residential rehabilitation program

27) **A facility that provides at least 3 hours of therapy 5 to 7 hours each week with a physiatrist or physician with similar training serving as the physician of record is**
   A. A medical rehabilitation program
   B. A comprehensive integrated inpatient rehabilitation program
   C. A skilled rehabilitation facility
   D. A residential rehabilitation facility

28) **A performance-based measure that is considered to be an assessment of functional exercise capacity is**
   A. The six-minute walk test
   B. The floor touch test
   C. The functional independence measure
   D. The sickness impact scale

29) **A facility that provides care for patients diagnosed with multiple acute or chronic conditions that require a level of care or services that meets criteria for an extended acute care confinement is**
   A. A long-term acute care hospital
   B. An inpatient rehabilitation facility
   C. A swing bed within an acute care facility
   D. A skilled rehabilitation and nursing facility

30) **A residential facility offering housing, meals, and limited assistance with activities of daily living is**
   A. A skilled nursing facility
   B. A transitional care facility
   C. A residential treatment facility
   D. An assisted living facility

31) **The process of assessing, planning, and implementing rehabilitative programs in order to restore or improve human motor functions is**
   A. Care coordination
   B. Physical therapy
   C. Occupational therapy
   D. Transitional care management

32) **A brace designed to support muscles, immobile joints, and/or correct the positioning of the foot or ankle is a type of**
   A. Prosthetic
   B. Assistive device
   C. Orthotic
   D. Durable medical equipment

33) A member of the rehabilitation team that assesses cognitive or behavioral status of a patient in order to address and to support cognitive and behavioral management and improvement is

A. A physiatrist
B. A neuropsychologist
C. A neurologist
D. A cognitive behavioral therapist

34) A work-related program designed to restore systemic neuromusculoskeletal functions, motor function, range of motion, and cardiovascular/pulmonary function is

A. A work-hardening program
B. Occupational rehabilitation program
C. A work-conditioning program
D. A physical medicine and rehabilitation program

35) A member of the rehabilitation team who works collaboratively with a disabled individual to facilitate the effective use of resources for personal, social, career, and community adjustment is a

A. Disability management specialist
B. Rehabilitation counselor
C. Case manager
D. Rehabilitation nurse

36) According to the Commission for Accreditation of Rehabilitation Facilities, the member of the rehabilitation team who proactively coordinates, facilitates, and advocates for the seamless delivery of restorative services is a

A. Disability management specialist
B. Rehabilitation counselor
C. Case manager
D. Rehabilitation nurse

37) A type of head injury that is not congenital, hereditary, degenerative, or caused by trauma during birth is

A. A diffuse axonal injury
B. An acquired head injury
C. A coup–contrecoup injury
D. A traumatic brain injury

38) A variety of implements or equipment used to aid individuals in performing tasks or supporting movement are considered to be

A. Prosthetics
B. Orthotics
C. Durable medical equipment
D. Assistive devices

39) The role of a case manager in workers' compensation is related to

A. Advancing effective and efficient health care interventions and identifying any potential challenges associated with the delivery of that care.
B. Negotiating the cost of care across each aspect of the rehabilitation continuum.
C. Investigating the cause of the injury to establish contributory negligence.
D. Establishing and facilitating the delivery of the individual plan for employment.

40) One method for uniformly describing the extent of loss of consciousness following a brain injury is

A. A comprehensive neurologic evaluation
B. The Ranchos Los Amigos Scale
C. The Glasgow Coma Scale
D. Completion of the Halstead-Reitan Battery of tests

41) A patient is assessed and determined to be at Ranchos Los Amigos Scale Level IV upon admission to an acute care facility for the treatment of sepsis related to a urinary tract infection. What additional consideration might be necessary to advance a safe, timely, and appropriate hospitalization?

A. Timely discharge to the previous environment of care.
B. A room assignment close to the nurse's station to more effectively monitor patient behavior.
C. Coordination of services with the disability management specialist as well as all therapists involved in the patient's rehabilitation continuum of care.
D. A transitional care report to the psychiatrist directing the patient's care.

42) In patients with spinal cord injury at or above the tenth thoracic vertebrae, an imbalance of the sympathetic and parasympathetic nervous systems may occur and cause severe hypertension. This often life-threatening condition

A. Is the primary cause of death in patients with tetraplegia
B. Requires immediate acute care interventions.
C. Can be minimized through the timely and consistent use of an intrathecal baclofen pump
D. Is referred to as autonomic dysreflexia or autonomic hyperreflexia

43) Any object or system that is specifically designed for the purpose of increasing or maintaining the capabilities of people with disabilities is

A. Durable medical equipment
B. A form of rehabilitative technology
C. A form of adaptive technology
D. Universal design and application

44) A validated measurement of disability based on both motor and cognitive function in adults over age 18 is

A. The FIM Instrument
B. The functional capacity evaluation and assessment tool
C. The IRF-PAI assessment system
D. The IME Assessment and Conversion Tool

45) A specialized assessment performed by an objective and qualified physician in order to obtain a comprehensive evaluation of and opinion regarding the extent of an injury is

A. An independent medical evaluation and assessment
B. A functional capacity evaluation
C. A vocational rehabilitation evaluation
D. A FIM Activation Measure

46) Workers' compensation is a type of no-fault insurance that provides benefits for death, total disability, or partial disability. Coverage includes medical care for the work-related illness or injury as well as

A. The payment of group health insurance premiums throughout the course of the disability.
B. The continuous accumulation of paid time off during the course of all medically necessary treatment and rehabilitation.
C. Additional benefits for pain and suffering associated with the work-related illness of injury.
D. A percentage of loss wages, compensation for any permanent physical impairment and job retraining or vocational rehabilitation counseling.

47) The competencies/knowledge, skills, and abilities required to successfully fulfill essential job functions are a key aspect of

A. A functional capacity evaluation
B. A vocational assessment
C. A job analysis
D. A functional capacity analysis and evaluation

48) The highest probable level of functioning a person may reach is defined as

A. Maximum medical recovery
B. Capacity
C. Maximum work performance
D. Optimal function with full participation and inclusion in all aspects of life

49) A comprehensive database of worker attributes and job characteristics that describes occupations in terms of the skills and knowledge required, how the work is performed, and typical work settings is

A. *The Dictionary of Occupational Titles* published by the Department of Labor
B. The Occupational Information Network (O*NET OnLine)
C. The Job Accommodation Network (askjan.org)
D. The Vocational Rehabilitation Directory of Roles and Responsibilities

50) Supplemental Security Income is a federal income supplement program that is funded by general tax revenues to

A. Address the needs of the aged, blind, and disabled people with limited income and resources.
B. Provide supplemental income and serve as a pathway to obtaining Medicaid.
C. Provide supplemental income to citizens of the United States and lawfully present aliens based on income and establishment of earned work credits.
D. Obtain both federal and state medical assistance programs, which is known as dual eligibility.

NOTES

Answer Key

1) ANSWER: B

The definition of case management as presented by the Commission for Case Management Certification within the Code of Professional Conduct for Case Managers with Standards, Rules, Procedures, and Penalties states, "The practice of case management is a professional and collaborative process that assesses, plans, implements, coordinates, monitors, and evaluates the options and services required to meet an individual's health needs. It uses communication and available resources to promote health, quality, and cost-effective outcomes in support of the 'Triple Aim,' of improving the experience of care, improving the health of populations, and reducing per capita costs of health care."

Based on that definition and the underlying values of case management that promote "improving client health, wellness and autonomy through advocacy, communication, education, identification of service resources, and service facilitation," the best response is patient safety.

2) ANSWER: C

Railroad employees who are injured while working are covered under the statutes of the Federal Employers Liability Act. The Jones Act covers seamen injured while working in the maritime industry, and the American's with Disabilities Act is an equal employment law that protects workers with disabilities. The Mann Act prohibited White slavery and the interstate transport of females for "immoral purposes."

3) ANSWER: A

Rehabilitation programs often overlook the fact that some patients may experience compromise to the integrity of the prosthesis due to falls, weight gain or loss, and weather conditions. All these things and others can affect the way the prosthesis fits and her ability to function. The case manager should explore the patient's ability to cope with her disability and potential problems. She or he should review typical scenarios and collaborate with the physical therapy department to facilitate a greater patient understanding of potential strategies to address difficult situations such as regaining an upright position following a fall. The nursing department should review possible scenarios with the fit of the prosthesis, any causes of irritation to the limb, and when to seek out the physician or prosthetist.

4) ANSWER: B

The process associated with performing a job analysis includes obtaining, assessing, and interpreting data about the major duties, functions, and responsibilities related to the successful achievement of the goals of employment. A completed job analysis provides a thorough understanding of not only essential job functions but also a list of all duties and responsibilities associated with that specific type of employment; a percentage of time spent in completing each group of tasks or job responsibilities; as well as the knowledge, skills, and abilities needed to perform the job. The job analysis may also include a review of the work environment and working conditions, skills or training required to successfully meet identified responsibilities and functions, physical activities required to perform major job functions, and the level of

intensity or strenuousness of physical activities associated with that role. The goal of a job analysis is to match the individual with a job that advances that individual's job-related goals and, when necessary, suggest any job modifications or accommodation that might support the achievement of success in maintaining employability.

5) ANSWER: A

The Commission for Case Management Certification defines a functional capacity evaluation (FCE) as "a systematic process of assessing an individual's physical capacities and functional abilities. The FCE matches human performance levels to the demands of a specific job or work activity or occupation. It establishes the physical level of work an individual can perform. An FCE is useful in determining job placement, job accommodation, or return to work after injury or illness. FCEs can provide objective information regarding functional work ability in the determination of occupational disability status."

6) ANSWER: C

According to the U.S. Department of Labor, a job accommodation is a reasonable adjustment to a job or work environment that makes it possible for an individual with a disability to perform job duties. The development of an accommodation includes consideration of essential job functions, the functional limitations of the person who will be performing those functions, and any potential hardship to the employer. Accommodations may include specialized equipment, facility modifications, and adjustments to work schedules or job duties. The Job Accommodation Network, a service of the U.S. Department of Labor, Office of Disability Employment Policy, offers consulting services regarding viable workplace accommodations.

7) ANSWER: A

Dating back to 2050 BC, monetary compensation was provided to workers who experienced an injury to body parts such as fractures. Other civilizations through the centuries have also advanced this extension of care including noble lords who cared for injured serfs under the concept of noblesse oblige.

In America, workers' compensation was initially adapted by the U.S. government to provide benefits for those involved in interstate commerce. Most states legislated workers' compensation regulations during the first part of the 20th century. This makes workers' compensation the oldest form of social insurance in America.

8) ANSWER: A

Maximum medical improvement is defined as the point at which the injured worker's medical condition has stabilized and further functional improvement is unlikely, despite continued medical treatment or physical rehabilitation.

9) ANSWER: A

Life care planners gather information from multiple sources in order to develop a comprehensive detailing of the disabled individual's immediate and lifelong health care needs and the projected costs associated with those disability-related needs. The narrative and precise detailing of those needs is considered to be a life care plan.

The Commission for Case Management Certification defines a life care plan as "A dynamic document based upon published standards of practice, comprehensive assessment, research and data analysis, which provides an organized, concise plan for current and future needs with associated costs for individuals who have experienced catastrophic injury or have chronic healthcare needs." The life care plan is an integrated plan that comprehensively details items and services required to support a patient's continuing care and health needs through the course of the patient's expected length of life including the anticipated costs associated with that care.

10) ANSWER: D

As defined within the CMSA Standards of Practice, the role of the case manager in every practice setting reflects a process of "assessment, planning, facilitation, care coordination, evaluation, and advocacy for options and services to meet an individual's and family's comprehensive health needs through communication and available resources to promote patient safety, quality of care, and cost-effective outcomes". Therefore, the case manager no matter the practice setting is accountable and responsible for monitoring the success of the case management plan in advancing patient-specific goals for care.

11) ANSWER: D

Most workers' compensation legislative actions require benefit coverage for medically necessary health care services as well as the provision of a portion of the injured employee's wages while that employee is unable to work. Some states also mandate monetary coverage for vocational rehabilitation, retraining or educational programs, compensation for permanent partial or total disability, and benefits to the survivors of workers who are killed in the performance of their employment.

12) ANSWER: A

According to the Commission for Case Manager Certification, work-hardening programs are "highly structured, goal-oriented, and individualized intervention programs that provide clients with a transition between the acute injury stage and a safe, productive return to work. Treatment is designed to maximize an individual's ability to return to work safely with less likelihood of repeat injury. Work-hardening programs are multidisciplinary in nature and use real or simulated work activities designed to restore physical, behavioral, and vocational functions. They address the issues of productivity, safety, physical tolerances, and worker behaviors."

13) ANSWER: D

Goals collaboratively developed within the case management plan are realistic, measurable, and specific to the patient's desires for treatment and rehabilitation. The development of goals is consistent with the use of the SMART methodology: **S**pecific, **M**easurable, **A**ttainable, **R**ealistic/Reasonable, and **T**ime-specific. The case manager is charged with the frequent and timely assessment of goal achievement. If progress is not made in meeting established goals, the treatment may require modification or identified goals may require revision or restatement.

14) ANSWER: C

The Commission for Case Management Certification defines ergonomics as "the scientific discipline concerned with the understanding of interactions among humans and other elements of a system. It is the profession that applies theory, principles, data and methods to environmental design (including work environments) in order to optimize human well-being and overall system performance." Ergonomics has also been described as a process that "fits the job to the person" or the scientific process of designing the workplace, keeping in mind the capabilities and limitations of the worker.

15) ANSWER: C

According to the Rehabilitation Engineering and Assistive Technology Society of North America, rehabilitative technology represents "the systematic application of technologies, engineering methodologies, or scientific principles to meet the needs of and address the barriers confronted by individuals with disabilities in areas which include education, rehabilitation, employment, transportation, independent living, and recreation." The term includes rehabilitation engineering, assistive technology devices, and assistive technology services. Examples of rehabilitative technology include robotics and virtual reality.

16) ANSWER: A

In addition to advancing the delivery of quality, appropriate, and efficient medically necessary care throughout the rehabilitative process, the case manager is charged with facilitating the injured worker's return to work in a timely and safe manner. If the injured worker is unable to return to previous employment, the case manager seeks to promote the achievement of maximum medical improvement.

It is important to remember that in every case management practice setting, the goals of the case management process are first and foremost focused on improving the clinical, functional, emotional, and psychosocial status of the individuals served.

17) ANSWER: A

Based on information available in the *International Encyclopedia of Rehabilitation*, a functional assessment is an "objective measurement of the levels of a person's functional abilities in performing activities of daily living, including relevant psychosocial aspects. Assessment leads to appropriate interventions, so that a person can achieve the maximum possible functionality, toward a better quality of life." A functional assessment might also be defined as an objective review of an individual's mobility, transfer skills, and activities of daily living, including self-care, sphincter control, mobility, locomotion, and communication. The assessment might also be utilized to establish baseline functionality in order to assess progress gained as the patient moves through the rehabilitation continuum.

18) ANSWER: B

Recipients of either supplemental security income (SSI) or social security disability income (SSDI) are presumed eligible for participation in vocational rehabilitation programs unless there is strong evidence that the individual is too significantly disabled to benefit from these services.

Vocational rehabilitation services include federally funded programs delivered by a state to provide vocational and rehabilitative services to individuals with disabilities to help them prepare for, obtain, regain, or retain employment. In addition to SSI and SSDI recipients, any individual who exhibits a significant physical or mental impairment that is a substantial impediment to employment and is reasonably expected to achieve employment following the delivery of those vocational rehabilitation services is eligible to be considered for enrollment in vocational rehabilitation programs.

19) ANSWER: C

Based on a definition available from the Commission for Case Management Certification, a Workers' Compensation Commission is "one of many terms identifying the state public body which administers workers' compensation laws, holds hearings on contested cases, promotes industrial safety, rehabilitation, etc. It is often located within the state labor department." Functions of these commissions include

- Administration of state-specific workers' compensation statutes
- Settlement of the disputes relating to the right to and the amount of financial compensation
- Supervision of voluntary settlements or agreements
- Collection and administration of compensation funds
- Supervision and regulation of matters relating to workers' compensation insurance

20) ANSWER: B

Based on information provided by the Commission for Case Management Certification, a functional capacity examination is "a systematic process of assessing an individual's physical capacities and functional abilities. The FCE matches human performance levels to the demands of a specific job or work activity or occupation. It establishes the physical level of work an individual can perform. The FCE is useful in determining job placement, job accommodation,

or return to work after an injury or illness. FCEs can provide objective information regarding functional work ability in the determination of occupational disability status." A functional capacity evaluation as defined by the American Occupational Therapy Association is an evaluation of "an individual's capacity to perform work activities related to his or her participation in employment. The FCE process compares the individual's health status, body functions, and body structures to the demands of the job and the work environment. In essence, an FCE's primary purpose is to evaluate a person's ability to participate in work, although other instrumental activities of daily living that support work performance may also be evaluated."

21) ANSWER: A

Vocational rehabilitation is a multiprofessional and interdisciplinary rehabilitation approach provided to individuals of working age with health-related impairments, limitations, or restrictions regarding work functionality. The goal of the vocational rehabilitation process is to advance employment opportunities and other meaningful activities for an individual who has a functional impairment or disability.

Vocational rehabilitation has also been defined within the International Encyclopedia of Rehabilitation as a process that begins with client identification and ultimately progresses to the successful placement of the client in gainful employment.

Aspects of the vocational rehabilitation process include but are not limited to vocational assessment, evaluation and training, general skill enhancement, job search and career counseling, and collaboration with potential employers if a job accommodation or modification is necessary.

22) ANSWER: D

Long-term care insurance policies generally provide coverage for long-term services and supportive care in a variety of settings including the home, the community, or a facility. The provision of care may be custodial in nature with the insured identifying the specific services required, with coverage often provided on a per diem basis. Long-term care policies may also cover assisted living, adult daycare and other care in the community, alternate care, and respite care for the caregiver. "Alternate care" is nonconventional care and services developed by a licensed health care practitioner that serve as an alternative to more costly nursing home care. Benefits for alternate care may be available for special medical care and treatments, different sites of care, or medically necessary modifications to the insured's home, like building ramps for wheelchairs or modifications to a kitchen or bathroom.

Medicaid coverage varies from state to state, with not all states offering coverage for home modifications. Community-based care transitions may offer some coverage for home modifications to enable elderly and/or disabled individuals to remain in the home environment of care. Also referred to as Medicaid Waivers, these programs provide opportunities for Medicaid beneficiaries to receive services in their own homes or communities rather than institutions or other isolated settings. These programs serve a variety of targeted population groups, such as people with intellectual or developmental disabilities, physical disabilities, and/or mental illnesses and offer a variety of in-home support programs, and financial support for home modifications that enable "aging in place."

When Medicaid Waivers provide coverage for physical modification to the home environments, they are considered to be environmental accessibility adaptations.

23) ANSWER: B

Social security disability insurance (SSDI) is available to disabled individuals who:

- Meet eligibility requirements based on both a work history and a history of contributing to the Social Security Trust Fund.
- Have a total disability that is expected to continue for at least one year or result in death and the disability interferes with the individual's ability to perform basic work-related activities.

- Have a medically determinable impairment resulting from anatomical, physiological, or psychological abnormalities that can be confirmed through medically acceptable clinical and laboratory diagnostic techniques.

Other individuals who may qualify for SSDI benefits include:

- An individual disabled since childhood (before age 22) who is a dependent of a parent entitled to title II disability or retirement benefits or was a dependent of a deceased insured parent.
- A disabled widow or widower, age 50–60 if the deceased spouse was insured under Social Security.

24) ANSWER: D

Based on information available from CARF, a residential treatment facility provides interdisciplinary services 24 hours a day, 7 days a week for persons with behavioral health or co-occurring needs, including intellectual or developmental disabilities. The individual seeking treatment resides within the facility and services are provided within a "safe, trauma-informed, recovery-focused milieu designed to integrate the person served back into the community and living independently whenever possible."

25) ANSWER: D

Defined as a multidisciplinary program of care for patients with chronic respiratory impairment that is individually tailored and designed to optimize physical and social performance and autonomy, pulmonary rehabilitation is a broad therapeutic concept that includes, but is not limited to, exercise training, education, and behavior change designed to improve the physical and psychological condition of people with chronic respiratory disease and to promote the long-term adherence to health-enhancing behaviors. Each pulmonary rehabilitation program is developed to meet the unique needs and goals of the patient including severity of disease, age, and racial and cultural diversity.

26) ANSWER: C

A transitional living facility provides a supported living environment for patients who require continued advancement of cognitive, motor, and behavioral skills under the supervision of medical and rehabilitation professionals. Programs focus on community reintegration and may also address behavioral management.

27) ANSWER: B

Based on a definition available from the Centers for Medicare and Medicaid Services, an inpatient rehabilitation facility is a freestanding rehabilitation hospital or rehabilitation unit within an acute care facility that offers an intensive rehabilitation program for patients who are able to tolerate three hours of intense rehabilitation services per day.

28) ANSWER: A

The six-minute walk test is a performance-based measure that assesses distance walked over six minutes as a test of aerobic or functional exercise capacity. The individual being tested may use an assistive device to facilitate safe ambulation although physical assistance during the testing process may compromise the integrity of the results of the evaluation. FIM is an assessment tool that serves to measure the level of a patient's disability specifically related to activities of daily living.

29) ANSWER: A

A long-term acute care hospital (LTAC or LTAH) is defined by the Centers for Medicare and Medicaid Services as a facility certified as an acute care facility that addresses patients who require a mean length of stay equal to or exceeding 25 days. LTACs provide diagnostic and

medical treatment to patients who demonstrate medical complexity or a severity of illness and intensity of required care consistent with acute care hospitalization. LTACs adhere to the Conditions of Participation associated with Medicare and Medicaid reimbursement mandates.

Common programs associated with the interventions and services provided by an LTAC include but are not limited to: complex wound care; mechanical ventilation and weaning; multispecialty medical care associated with cardiovascular care, brain injury, or cancer treatment; and complex intravenous medication regimes.

30) ANSWER: D

An assisted living facility is generally considered to be a residential long-term care setting that provides or coordinates supportive services to meet the needs of those who require some assistance with activities of daily living. Assistive living facilities offer housing, meal service, and the continuous availability of oversight and supportive services in a home-like environment.

The Centers for Medicare and Medicaid Services considers the assistive living environment as the individual's home for the delivery of home-based services such as intermittent skilled nursing visits or medically necessary rehabilitative services.

31) ANSWER: B

According to the World Health Organization, physical therapy is the process of assessing, planning, and implementing rehabilitative programs that "improve or restore human motor functions, maximize movement ability, relieve pain syndromes, and treat or prevent physical challenges associated with injuries, diseases and other impairments." While case managers assess, plan, facilitate, coordinate, and advocate for options and services necessary to meet a patient's health needs, those interventions are not necessarily focused on restoration or improvement of motor functions.

32) ANSWER: C

An orthotic is defined as a device fitted externally to an anatomical portion of the body to influence motion by assisting, resisting, blocking, or unloading part of the body weight. An orthosis may be used to correct deformity, compensate for weakness, or protect a body segment. It includes, but is not limited to, custom and noncustom devices, corsets, trusses, and belts. An ankle foot orthotic is a brace designed to support muscles, immobile joints, and/or correct the positioning of the foot and ankle.

33) ANSWER: B

The National Academy of Neuropsychology defines a neuropsychologist as "a professional within the field of psychology with special expertise in the applied science of brain-behavior relationships. Clinical neuropsychologists use this knowledge in the assessment, diagnosis, treatment, and/or rehabilitation of patients across the lifespan with neurological, medical, neurodevelopmental and psychiatric conditions, as well as other cognitive and learning disorders." The neuropsychologist is a member of the multidisciplinary team who assists in the development of a patient-specific rehabilitation plan that addresses specific interventions to support cognitive and behavioral management and improvement.

34) ANSWER: C

Based on a definition available from the American Physical Therapy Association (ApTA), work conditioning is "an intensive, work-related, goal-oriented conditioning program designed specifically to restore systemic neuromusculoskeletal functions (e.g., joint integrity and mobility), muscle performance (including strength, power, and endurance), motor function (motor control and motor learning), range of motion (including muscle length), and cardiovascular/pulmonary functions (e.g., aerobic capacity/endurance, circulation, and ventilation and respiration/

gas exchange). The objective of the work-conditioning program is to restore physical capacity and function to enable the patient/client to return to work."

ApTA defines work hardening as an "approach [that] is similar to work conditioning; however, it is multidisciplinary and can involve psychomedical counseling, ergonomic evaluation, job coaching, and/or transitional work services. Treatment is typically provided 5 days per week for 2 to 4-plus hours per day. Clients in work-hardening programs may progress to transitional work programming by actually performing job duties at their place of employment. If necessary, final adaptations and/or reasonable accommodations can be determined during this period of transition."

35) ANSWER: B

The Commission for Case Management Certification defines a rehabilitation counselor as a member of the rehabilitative team who "possesses the specialized knowledge, skills, and attitudes needed to collaborate in a professional relationship with persons with disabilities to empower them to achieve their personal, social, psychological, and vocational goals."

The Commission on Rehabilitation Counseling Certification additionally states, "Rehabilitation counseling is a systematic process which assists persons with physical, mental, developmental, cognitive, and emotional disabilities to achieve their personal, career, and independent living goals in the most integrated setting possible through the application of the counseling process. The counseling process involves communication, goal setting, and beneficial growth or change through self-advocacy, psychological, vocational, social, and behavioral interventions. The specific techniques and modalities utilized within this rehabilitation counseling process may include, but are not limited to:

- Assessment and appraisal
- Diagnosis and treatment planning
- Career (vocational) counseling
- Individual and group counseling treatment interventions focused on facilitating adjustments to the medical and psychosocial impact of disability
- Case management, referral, and service coordination
- Program evaluation and research
- Interventions to remove environmental, employment, and attitudinal barriers
- Consultation services among multiple parties and regulatory systems
- Job analysis, job development, and placement services, including assistance with employment and job accommodations
- Provision of consultation about and access to rehabilitation technology."

36) ANSWER: C

The Commission for Accreditation of Rehabilitation Facilities defines case management as proactively "coordinating, facilitating and advocating for seamless service delivery for persons with impairments, activity limitations, and participation restrictions." While other members of the rehabilitation team may perform similar functions, it is the case manager who accepts and performs the role and functions that are integral to the definition of case management. The Case Management Society of America (CMSA) defines case management as "a collaborative process of assessment, planning, facilitation, care coordination, evaluation and advocacy for options and services to meet an individual's and family's comprehensive health needs through communication and available resources to promote patient safety, quality of care, and cost effective outcomes." The CMSA also details the primary functions of case management as assessment, planning, facilitation, coordination, monitoring, evaluation, and advocacy.

37) ANSWER: B

An acquired brain injury includes any injury to or illness of the brain that occurs after birth including traumatic brain injuries, cerebral hemorrhage or ischemia, tumors, or infections. A traumatic brain injury is a form of acquired injury that represents an alteration in brain function or other evidence of brain pathology caused by an external force.

38) ANSWER: D

Although a number of definitions exist, an assistive device is commonly defined as any tool that is designed, made, or adapted to assist a person to perform a particular task. Another definition offered by the World Health Organization states the primary purpose of assistive devices and technologies is maintenance or improvement of an individual's functioning and independence to facilitate participation and to enhance overall well-being.

Not all forms of durable medical equipment aid in the performance of tasks or facilitate movement, and not all assistive devices meet the criteria for durable medical equipment such as being durable (can withstand repeated use), available to address a medical reason or condition, used in the home, and having an expected lifetime of at least three years.

39) ANSWER: A

The role of the case manager in all practice settings is the advancement of effective and efficient health care interventions as well as identifying any potential challenges associated with the delivery of that care. That said, the case manager who practices within the workers' compensation space also endeavors to support return to work goals and attainment of maximum medical improvement.

40) ANSWER: C

The Glasgow Coma Scale provides a consistent method for an assessment of the depth and duration of impairment of consciousness in response to defined stimuli. This reliable and objective measure assists in gauging initial and subsequent levels of consciousness following a brain injury. The Ranchos Los Amigos Scale assesses level of cognitive function in response to stimuli and the associated need for supportive services or care based on that response and demonstrated cognitive function.

41) ANSWER: B

Ranchos Los Amigos Scale Level IV represents a level of cognition that is confused with agitation, requiring maximal assistance. An individual at this level may exhibit aggressive or flight behaviors, be uncooperative, or be incoherent and attempt to remove protective restraints or crawl out of bed. At this level of cognition, a room assignment near the center of professional activity such as the nurse's station may offer a more consistent opportunity to interact with the individual and advance patient safety.

42) ANSWER: D

Autonomic dysreflexia is a potentially life-threatening medical emergency for individuals diagnosed with a T6 or higher spinal cord injury. Based on an imbalance between the parasympathetic and sympathetic nervous system and triggered by irritant that occurs below the level of injury, the symptoms of autonomic dysreflexia include hypertension, pounding headache, diaphoresis above the level of the injury, nasal stuffiness, or bradycardia.

Individuals who experience a spinal cord injury and their caregivers require specific education regarding the steps to take when the signs of this condition occur including: sitting upright or raising the head of the bed, removing restrictive clothing, monitoring blood pressure, checking for the cause of the irritant including skin issues or bowel or bladder distention, and use of medication as prescribed if the noxious stimuli cannot be identified and addressed.

43) ANSWER: C

Adaptive technology is any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities. Assistive technology includes devices, aids, and enhancements used in rehabilitation technology.

Rehabilitative technology is generally defined as the systematic application of technologies, engineering, methodologies, or scientific principles to meet the needs of, and address the barriers confronted by, individuals with disabilities. Universal design benefits all individuals regardless of abilities and disabilities. Products that are universally designed "accommodate individual preferences and abilities, communicate necessary information effectively (regardless of ambient conditions or the user's sensory abilities), and can be approached, reached, manipulated, and used regardless of the individual's body size, posture, or mobility. Application of universal design principles minimizes the need for assistive technology, results in products compatible with assistive technology, and makes products more usable by everyone, not just people with disabilities." (Disabilities, Opportunities, Internetworking, and Technology)

44) ANSWER: A

The FIM Instrument is a validated measure of functional capabilities in individuals with a disability. The tool measures 13 motor tasks and 5 cognitive functions to present a score that ranges from a low of 18 to a high of 126. Documentation of scores as the patient moves through the rehabilitation continuum can be utilized to establish goal achievement, rehabilitative successes, and additional opportunities for achieving progress in restoring functional capabilities. The FIM Instrument is limited to use in adult populations.

Both functional capacity and independent medical evaluations are, in some way, processes associated with the establishment of the specific physical level of work an individual is capable of performing or the degree of impairment an individual exhibits.

Inpatient rehabilitation facilities (IRFs) that are eligible for Medicare payment under the IRF prospective payment system are charged with submission of the Inpatient Rehabilitation Facility Patient Assessment Instrument (IRF-PAI). The IRF-PAI represents assessment data collected on all Medicare Part A fee-for-service patients who receive services under Part A from an inpatient rehabilitation unit or hospital. IRF-PAI data items address the physical, cognitive, functional, and psychosocial status of the IRF patients.

45) ANSWER: A

An independent medical evaluation (IME) is a comprehensive examination performed by an objective and qualified physician who has successfully completed IME training and has not previously provided care to the individual being evaluated. Common aspects of an IME include:

- A review of the history of the injury as well as occupational and socioeconomic history
- A review of associated diagnostic testing with findings
- A comprehensive review of treatment and associated outcomes of those treatments
- A physical examination—if no physical examination is performed, the review is considered an independent medical review
- An opinion regarding diagnosis including the scope and nature of the disability and prognosis
- The generation of a comprehensive written report that details findings.

The IME may include a functional impairment rating that represents an estimate of impairment based on acceptable medical standards. Impairment ratings are generally expressed as a percentage of disability.

46) ANSWER: D

Although specific workers' compensation laws vary from state to state, an employee who experiences a work-related injury might expect payment of all medically necessary treatment and care, compensation for any permanent physical impairment, vocational rehabilitation services or job retraining when necessary to advance an injured worker's return to work, payment to a deceased worker's dependents in case of a job-related death, and a percentage of lost wages.

47) ANSWER: C

The U.S. Office of Personal Management defines a job analysis as the foundation for identifying the best person for the job as well as understanding the nature of that job. A job analysis "examines the tasks performed in a job, the competencies required to perform those tasks, and the connection between the tasks and competencies."

A job analysis can be utilized to:

- Establish work content including major functions, tasks, and responsibilities inherent to the role
- Identify the knowledge, skills, and abilities required to accomplish major job functions
- Develop a formalized job description that can serve as a source of legal defensibility of assessment and selection procedures as well as supporting personnel decisions including promotions and performance appraisals

48) ANSWER: B

Capacity represents the highest probable level of functioning a person may achieve. According to the Commission for Case Management Certification, "capacity is measured in a uniform or standard environment, and thus reflects the environmentally adjusted ability of the individual."

49) ANSWER: B

The Occupational Information Network (O*NET) is available through the sponsorship of the U.S. Department of Labor/Employment and Training Administration (USDOL/ETA). ETA contributes to the more efficient functioning of the labor market within the United States by providing high-quality job training, employment, labor market information, and income maintenance services primarily through state and local workforce development systems.

The O*NET Content Model defines the mix of knowledge, skills, and abilities as well as the variety of tasks and activities that are performed within that job role or function. The primary characteristics of an occupation are defined within O*NET as descriptors and represent the day-to-day aspects of the job and the qualifications and interests of the average worker.

The Job Accommodation Network (JAN) is provided by the USDOL, Office of Disability Employment Policy. JAN offers guidance regarding job accommodations and other disability employment issues.

50) ANSWER: A

Supplemental Security Income (SSI) is a federal program that provides an income supplement to assist the blind, disabled, or aged who have little or no income. Definitions of the terms *little or no income* and *limited resources* are available on the ssa.gov website. Children under age 18 who are disabled may also be eligible for SSI benefits.

Other benefits that may be available to low-income individuals and families include Rural Rental Assistance, the Housing Choice Voucher Program (Section 8), Rural Housing: House Repair Loans and Grants, and the Supplemental Nutrition Assistance Program.