



Moving forward in neuromuscular disorder rehabilitation

For the thousands of individuals who have been diagnosed with a neurological disorder, such as Multiple Sclerosis (MS) or Parkinson's disease, having access to a specialized rehabilitation is vitally important for the best possible outcomes. Madonna Rehabilitation Hospital offers state-of-the-art assistive technology and adaptive techniques, which help people continue functioning in their home and participating in their life roles for as long as possible. Providing a full continuum of care, Madonna served 36 inpatients and 107 outpatients during its most recent fiscal year, ending June 30, 2008. Individuals served were those with MS; Parkinson's disease; Polyneuropathy, such as Guillain-Barré; Cerebral Palsy; neuromuscular disorders, such as Amyotrophic Lateral

progressive nature of the disease, these individuals typically require intermittent specialty services, such as seating and positioning, as well as physical, occupational or speech therapy targeted at a specific issue, such as spasticity management or swallowing difficulty, and/or training in use of assistive technology.

Parkinson's Disease is a chronic, progressive motor system disorder. The body's ability to produce dopamine, responsible for transmitting signals, is affected. This loss of dopamine causes critical nerve cells in the brain, or neurons, to fire out of control, leaving afflicted persons unable to direct or control their movement in a normal manner. Parkinson's disease is a progressive condition, with symptoms that often appear gradually and



A mosquito bite morphed into West Nile virus, meningitis and Guillain-Barré syndrome that attacked and paralyzed Deb Spanyers' body. Her Madonna therapy team devised a program to rebuild her strength and endurance.

abnormal sensation in the legs, which often spreads to the arms and upper body. These symptoms often increase in intensity until the muscles cannot be used and the person is almost totally paralyzed. In these cases, the person may be put on a ventilator to assist with breathing. Individuals with Guillain-Barré often begin treatment on LTACH, focusing on ventilator weaning and building strength before participating in an intense rehabilitation program. Most people recover from even the most severe cases, although some continue to have some degree of weakness. Intense coordinated rehabilitation has been proven to improve strength and functioning for individuals with this syndrome.

Neuromuscular Disorders refers to several different conditions, of which the largest is Motor Neuron Diseases (MND), a group of progressive neurological disorders that destroy cells controlling essential muscle activity, such as speaking, walking, breathing, and swallowing. Common MNDs include amyotrophic lateral sclerosis

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Sclerosis (ALS) or Myasthenia Gravis; and other neurological diagnoses, such as Friedrick's Ataxia or Transverse Myelitis.

Multiple Sclerosis is a progressive neuromuscular disease characterized by periods of exacerbation, when symptoms are worse followed by periods of remission, when little or no changes are experienced. Inpatient rehabilitation is often medically necessary during initial onsets or episodically during periods of significant exacerbation. Due to the

worsen over time. Specific symptoms may include tremors, balance and coordination impairments affecting gait and mobility, rigidity and difficulty initiating movement, and oral motor difficulties. Goals of treatment are most often focused on regaining motor control, coordination, balance, mobility and self-care abilities.

Guillain-Barré syndrome is a disorder in which the body's immune system attacks part of the peripheral nervous system. The first symptoms include varying degrees of weakness and/or

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(ALS), progressive bulbar palsy, primary lateral sclerosis, and progressive muscular atrophy. This category also includes muscular dystrophies (MD),



Madonna's certified staff works with patients to adjust their assistive technology needs that includes their seating systems.

which are a group of more than 30 genetic diseases characterized by progressive weakness and degeneration of the skeletal muscles that control movement. Some forms of MD are seen in infancy or childhood, while others may not appear until middle age or later. The disorders differ in terms of the distribution and extent of muscle weakness, age of onset, rate of progression, and pattern of inheritance.

Other neurological diseases include extrapyramidal disease and movement

disorders (e.g. Dystonia), spinocerebellar disease (e.g. Friedrick's Ataxia) or other demyelinating diseases of the central nervous system (e.g. Transverse Myelitis). These individuals often present with balance and coordination deficits, weakness, abnormal sensation, and bowel/bladder dysfunction.

Progressive paralysis and coordination difficulties that affect speech, swallowing, mobility and ability to perform self care is common among those afflicted with these neurological disorders. Typically these patients benefit from episodic treatment aimed at adjusting their assistive technology needs, including their seating systems and methods for alternative environmental control and communication. Treatment should also include patient family training in adaptive techniques and appropriate home exercise programs, and psychological counseling for adjustment issues.

At Madonna, four therapists have received specialty certification by RESNA as Assistive Technology Practitioners. This specialized education enables them to accurately assess patients, work with vendors to select appropriate power wheelchair equipment and accessories, and train

patients/families in their use. Madonna's advanced pressure mapping software helps therapists identify pressure spots and prescribe seating systems that decrease the risk of dangerous skin breakdown. Speech language pathologists at Madonna are specially trained in the use of augmentative communication devices, swallowing assessment and treatment techniques.

Please visit www.Madonna.org to learn more about our programs and services at Madonna Rehabilitation Hospital.