Guillain-Barré Syndrome and Rehabilitation

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Guillain-Barré is an immune mediated demyelinating disease of the peripheral nervous system. Inflammation of peripheral nerves leads to dysfunction of motor systems, sensation, respiration, and/or the autonomic nervous system. People diagnosed with Guillain-Barre will have symptoms that progress symmetrically, with a peak at about four weeks. Severe cases may result in someone requiring mechanical assistance to breathe. The role of the rehabilitation team varies throughout the progression of Guillain-Barré Syndrome.

Acute:

During the acute stages, medical management will likely take precedent in an effort to stabilize the patient and prevent further progression of the disease. Patients may be unable to move, require support for ventilation, and have sensory impairments, which limit participation in active therapy interventions. At this time, rehabilitation specialists play an important role in preventing secondary complications of immobility such as pressure ulcers, contractures, pulmonary complications, and deep vein thrombosis.

- Education should be provided for repositioning every two hours to prevent pressure ulcers. Supporting the arms with pillows can prevent strain on the shoulders. Evidence shows positioning in some abduction and external rotation can prevent future shoulder pain. Repositioning the patient on alternating sides can also assist with improving pulmonary hygiene.
- Support under the ankles can prevent excessive pressure at the heels. Avoiding prolonged periods in extreme hip/knee flexion or plantarflexion are important to prevent contractures. Pressure relieving dorsiflexion splints will assist in prevention of plantarflexion contractures, while protecting the heels from skin breakdown.
- Gentle range of motion exercises will help to prevent contracture and increase comfort of the patient.
- About one third of cases of Guillain-Barré result in pulmonary dysfunction. The introduction of breathing exercises through the use of an incentive spirometer, deep breathing exercises, or coughing are important to maintain pulmonary hygiene. Manual techniques such as percussion and vibration can be used to assist with clearance of secretions.
- Patients who are immobile are at an increased risk for deep vein thrombosis (DVTs). Compression stockings and pneumatic compression garments have been shown to decrease the risk for DVTs.
- Mobilizing patients out of bed as soon as medically stable is important to maintain circulation, strength, and pulmonary function. Rehabilitation specialists can assist with progression from supine to sitting and safe transfers out of bed to a chair to prevent these secondary complications.
Recovery:

Once the patient is medically stable and the disease progression has plateaued, therapists can begin to focus on recovery of motor and sensory function to increase independence. Therapists should begin with active assisted exercises. Slowly, patients should be encouraged to increase participation without exercising to fatigue. Evidence suggests that overworking the muscles after Guillain-Barre could result in worsening of symptoms or delay or disrupt neural recovery. Constant monitoring of response to treatment is required to ensure a safe progression of strengthening and mobility.

- Physiotherapists complete range of motion and strengthening exercises necessary for mobility. Strengthening may begin in a gravity eliminated plane to allow repetitions without excessive fatigue. Use of a powder board or sling can assist with gravity eliminated movement. At the start of each session, the patient's pain and strength should be assessed. If there was a decline in strength from the previous session, that muscle group should be given a rest on that day until strength returns to prior level.
- During this time, mobilization of the patient into sitting or out of bed to a chair is important to promote pulmonary hygiene, circulation, and increase tolerance to upright.
- As soon as possible, the focus of therapy should be on functional training to increase independence. Activities such as bed mobility, sit to stand transfers, and gait should be used to increase strength and provide training for increased independence within the home. Assistive devices such as walkers and canes or bracing for lower extremities may be recommended to increase safety during gait.
- Training on independent dressing, feeding, and bathing will increase a patient's independence in the home. Devices such as sock aides, reachers, or bath chairs may be recommended for safety with activities of daily living.
- Education should be provided on energy conservation techniques, including seated rest breaks and pacing activities throughout the day. Endurance training under the supervision of a skilled therapist is beneficial in assisting patients with returning to home and work. This training should be completed at a moderate level, progressing slowly without over fatiguing the patient.
- Recommendations may be made by the rehabilitation specialist for home modifications or wheelchairs to increase independence and safety within the home.

Long Term:

Patients may require long term follow up to continue to promote recovery of neurologic function and maintain safety at their current level of function. Training on skills required for return to community activities and return to work may be addressed by the therapist. This may include continued strengthening and endurance training, training specific to job duties, or driving education and modifications.
Rehabilitation specialist plays an important role in recovery after Guillain Barre Syndrome. Initiating rehabilitation services early can assist in preventing secondary complications, while later therapists can assist with strengthening and increasing functional independence. Through a multidisciplinary team approach, the best outcomes can be achieved for the patient.

References:


