

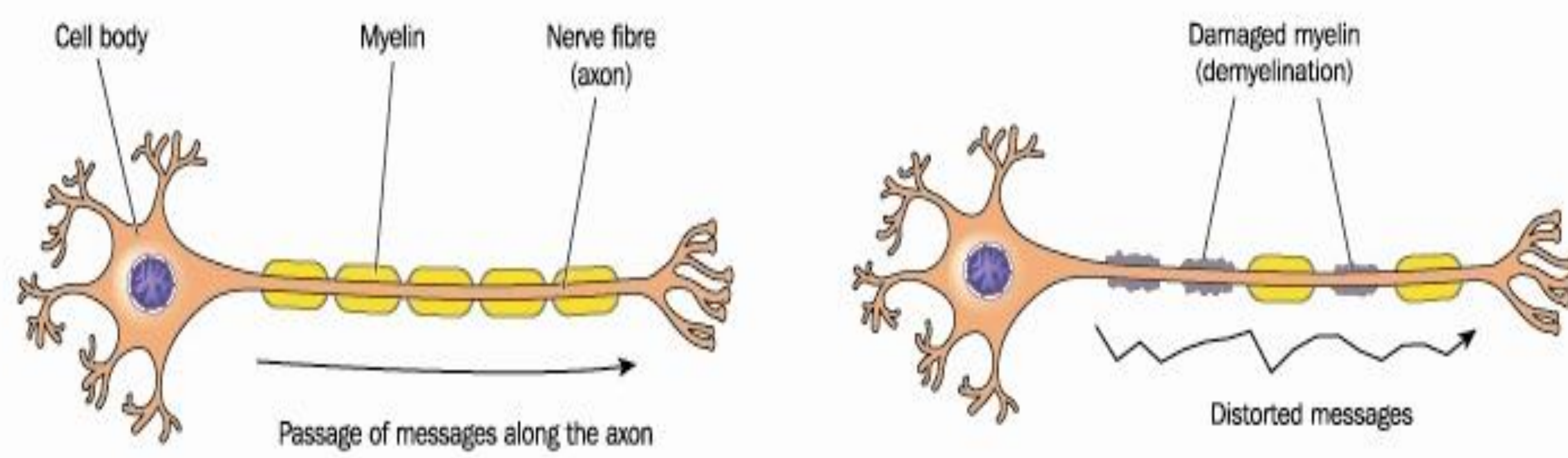
Use of the Task-Oriented Approach for Chronic Inflammatory Demyelinating Polyneuropathy: A Case Report



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Unique

- Extensive literature exists regarding medical management of chronic inflammatory demyelinating polyneuropathy (CIDP).¹
- Limited research exists regarding physical therapy (PT) management for patients with CIDP.
- The abnormal onset of severe mobility limitations, and lack of response to medical management, demanded further inquiry into this case.



Figures 1 and 2 compare a normal neuron (left) to a demyelinated neuron (right).²

Purpose

Using evidence-based resources on CIDP and Guillain-Barre Syndrome (GBS), this case report describes the PT management of a patient with CIDP using the task-oriented approach (TOA) as a framework for clinical decision-making.^{1,3-6}

Foundation

- CIDP is an acquired neurological disorder similar to GBS with rare a prevalence of 2-7.7/100,000.⁷
- Etiology and pathogenesis are largely unknown but are thought to be immunological, targeting the myelin of peripheral nerves.^{7,8}
- TOA is based upon systems theory with influence from motor learning and motor control theories.
- Systems theory states abnormal movements are related to deficits in one or more system(s) and are comprised of the body's existing systems' attempts to compensate.
- Compensations are not always ideal; interventions can be designed to optimize strategies and complete functional tasks more effectively and efficiently.⁶

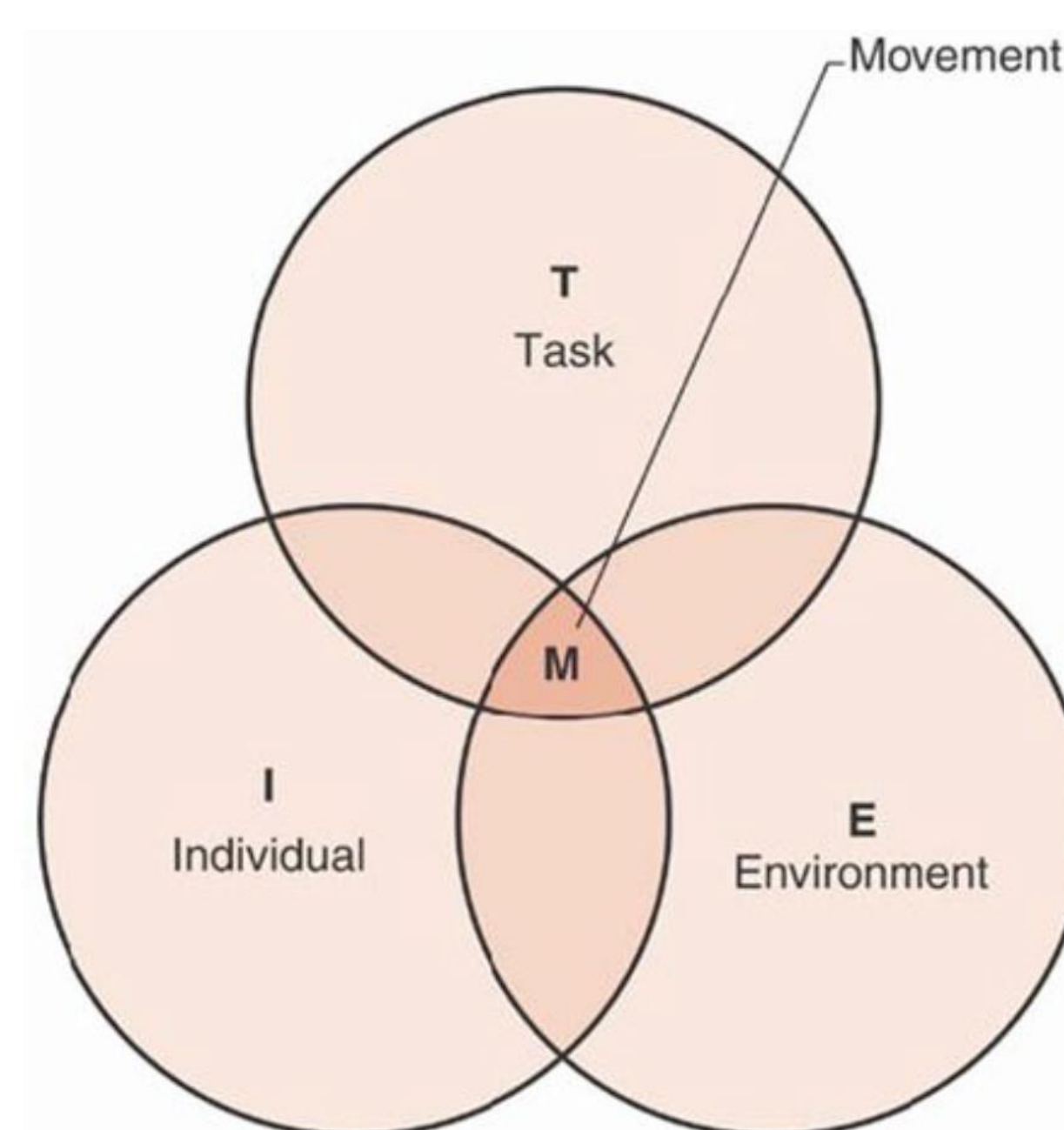


Figure 3. Visual model of the TOA.⁹

Description

- 74-year-old Caucasian male diagnosed with CIDP 3 years prior with several bouts of symptoms since initial onset
- Initially prescribed intravenous immunoglobulin (IVIG) and prednisone which worked well for the patient who was moderately active prior to this relapse
- Four months prior to this admission, he experienced a relapse after receiving a generic form of IVIG.
- Impairments identified: decreased strength and AROM in bilateral LEs (R > L); impaired proprioception, coordination, and balance; fatigue and decreased endurance; pain in his hands; inability to walk
- Patient goals: to walk again and return home independently

Interventions

- Plan of care: 90 minutes each of PT and occupational therapy daily, 6x/week x17 days
- Goals: to improve the noted impairments and develop more efficient compensatory strategies using to the TOA
- Initial treatments included therapeutic and aerobic exercise, neuromuscular re-education, balance training, and functional mobility training.
- Stretching and moist heat were added on day 14.



Figure 4. Interventions: Images above (Top from left to right): Seated Balance Training; Standing LE Motor Control Exercise; Seated LE Motor Control Exercise; Endurance Training on the NuStep®; (Bottom from left to right): Sit to Stand Training with SW and knee cage; Transfer Training with SW and knee cage; Gait Training with SW and knee cage.

Observations

Outcomes	At Initial Evaluation	At Discharge
Berg Balance Scale	4/56	5/56
Modified Functional Reach Test	Anterior: 7" Right: 5" Left: 6"	Anterior: 14" Right: 10" Left: 8"
Timed Up and Go	Completed in 01:39 with ModAx2 and SW	Unable to complete (10' then 6') with minAx1 CGAx1 and SW
Functional Independence Measure	Total: 58/126 Motor Subscale: 28/91	Total: 75/126 Motor Subscale: 43/91
Borg Rating of Perceived Exertion	At Rest: 6/20 With Activity: 13/20	At Rest: 6/20 With Activity: 13/20
Bed Mobility	ModAx2	MinAx2
Sit to Stand	ModAx2	CGAx1
Transfers	ModAx2	CGAx1
Ambulation	ModAx2	MinAx1 CGAx1

Outcomes Abbreviation Key: ModAx#: moderate assistance of # of people; SW: standard walker; minAx#: minimal assistance of # of people; CGAx#: contact guard assistance of # of people

Conclusion

- Using TOA as a framework and guidelines for PT management of GBS provided guidance for the treatment of this patient with the challenging diagnosis of CIDP.
- System-based impairments and maladaptive strategies were identified via task analysis, which helped to devise both corrective and compensatory interventions.
- Lack of substantial progress at discharge may have been attributed to progression of the disease, decreased response to IVIG, the tapering of prednisone, or decreased motivation after discharge notice.
- Research with larger samples, possibly via a multicenter study, and other case reports would be beneficial to further guide the PT management of patients with CIDP.

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