



Recovering Feeling

MIRE therapy enables therapist to help patients regain sensation

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Physical therapists often encounter peripheral neuropathy in the clinical setting, typically as a symptom of the patient's overlying disease process. Many practitioners find this to be a very confounding condition to offer treatment for. Patients suffering from this condition often have complaints of burning dyesthesias, balance deficits, and wounds or high risk of wounds from the lost sensation. Currently, treatment approaches usually focus on compensation strategies and instruction in much disciplined self-inspection for developing wounds and regimented safety awareness. Physical Therapists are now empowered to address the disorder itself, and not just attempt to manage symptoms and sequelae. Monochromatic Infrared Energy (MIRE) is the FDA approved physical modality that specifically treats peripheral neuropathy. The following is a case study of the application of MIRE therapy in combination with more widely used physical therapy treatment methods to treat a client with peripheral neuropathy.

Sue presented with a referral for physical therapy evaluation and treatment for peripheral neuropathy resulting from chemotherapy treatment of colon cancer. Her subjective complaints were feelings of numbness in her feet, yet also feeling as if her shoes were full of rocks at all times. At first appointment, she ambulated with the aid of a four-wheeled walker due to frequent losses in balance. *Sue's* gait was characterized by the following: an excessively wide base of support, exaggerated dorsiflexion of her ankles in swing phase, nearly absent arm swing, absent trunk and pelvic rotation and frequent glances down to her feet to monitor their placement. Her composite Tinetti Performance Oriented Mobility Assessment (POMA) score was 17/28, and her sensation to a 5.07 monofilament was 2/5 left foot and 0/5 right foot (representing a loss of protective sensation). The patient's final complaint was that she was no longer able to driver her automobile due to her loss of sensation.

Physical Therapy intervention involved engaging the patient in dynamic standing balance exercises, biomechanical gait training to correct errors (presented in a whole-part-whole method with practice progressing from block format to randomized) and direct application of MIRE therapy. MIRE treatment was conveyed using the ANODYNE system. Parameters were as follows: 30 minute exposure time at an intensity setting of seven bars to both legs simultaneously. The patient was provided three treatments per week for a total duration of four consecutive weeks. Following six appointments *Sue's* sensation and balance measures were: 23/28 Tinetti score, 3/5 sensate areas right foot and 4/5 sensate areas left foot (as measured by 5.07 monofilament). Upon completion of

treatment the patient demonstrated: 24/28 Tinetti score, 4/5 sensate areas right foot, 5/5 sensate areas left foot. Moreover the patient was independently ambulating in the community without the use of any assistive device and had resumed driving. The only residual gait deviation was a slightly widened base of support.

There was one variation from commonly employed therapy practices, aside from the application of MIRE therapy. Rather than teach compensation strategies for absent sensation, balance exercises were continually updated to make use of newly recovered sensation. As is evident from the Tinetti scores, the patient had progressed from the highest fall risk category to the lowest fall risk category 2. This degree of functional improvement could not have been attained without return of protective sensation in this patient.

MIRE technology now empowers physical therapists to provide clients with a service never before possible, the restoration of tactile sensation lost due to peripheral neuropathy. Any physical therapist offering services to people with neurological disorders, balance deficits, or diabetes should consider exploring MIRE therapy as a potential modality to offer to their clients.

References:

1. Tinetti, M. (1986). *Performance-oriented assessment of mobility problems in elderly patients*. *Journal of the American Geriatrics Society*, 34, 119-126.
2. Tinetti, M., Williams, T., & Mayewski, R. (1986). *Fall risk index for elderly patients based on number of chronic disabilities*. *American Journal of Medicine*, 80, 429-434.