



## **Dynamic Recovery Physical Therapy**

**6638 W. Ottawa Ave. #115**

**Littleton, CO 80128**

**Phone: 303-949-0904**

**Fax: 303-979-0374**

[www.dynamicrecoverypt.com](http://www.dynamicrecoverypt.com)

Dr. Nancy Bonifer has worked as a Physical Therapist, with a specialty in the treatment of individuals with neurologic disorders, since 1992. She has her Bachelor's, Master's and Doctoral degrees in Physical Therapy. In addition, she has completed advanced training & competencies in the Neurodevelopmental Treatment Approach (NDT), Neurological clinical specialty, Vestibular Rehabilitation and other topics. She has completed and published multiple research studies in the field of neurologic rehabilitation.

She is currently the owner of Dynamic Recovery Physical Therapy - a small, private clinic in Littleton, CO - where she treats clients 1:1. She believes each client has individual needs, is blessed to truly love what she does for a living and believes humor should be a part of every day.

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### **Neurologic Physical Therapy**

Physical Therapy interventions can help after a traumatic brain injury in a number of ways. Treatments can be performed to increase flexibility and joint mobility, normalize muscle tone & decrease spasticity, increase strength, improve movement and function, decrease pain, improve walking, retrain balance and maximize posture and alignment.

Physical Therapy treatment plans are developed for each individual client based on their individual needs and after a thorough evaluation. Treatments may include:

- neuromuscular re-education to retrain movement, normalize tone
- exercise: strengthening and stretching, home exercise programs
- core stability training
- manual therapy techniques to increase flexibility, improve alignment and decrease pain
- functional mobility training to regain the ability to perform daily activities
- gait training to relearn or optimize walking; wheelchair mobility training
- assistive device training
- balance retraining
- vestibular rehabilitation: treatment of certain balance disorders, dizziness & vertigo
- taping and bracing

- Programs should be tailored to meet each individual's cognitive, sensory and safety levels. Often we need to consider and adjust environmental inputs (sounds, bright lights, noise, room temperature, texture of fabrics, etc.).

## **Neuroplasticity**

One treatment principle that Nancy utilizes in her practice is neuroplasticity. Neuroplasticity is the ability of the brain to form new neural connections. Our brain's nerve cells (neurons) have the potential to adjust their activities in response to new situations or to changes in their environment. This concept means that we can potentially improve (physically, cognitively, sensorily) after an injury to the brain.

Different areas of the brain are responsible for different activities we perform - movement, sensation, vision, hearing, memory, emotions, speech, self-control, decision making, etc. With specific training, brain activity associated with a given function can be transferred from a damaged area of the brain to a different location. In addition, training can potentially increase our brain's grey matter. Grey matter is brain tissue that contains the brain's neuronal cell bodies. The volume of grey matter a person has correlates positively with memory, learning ability and other skills. Training can also strengthen synapses (links between neurons) in our central nervous system. All of these things translate into increased learning (including motor learning) and functional ability.

Examples of physical therapy interventions based on the principle of neuroplasticity include Constraint-Induced Movement Therapy (CIMT), Forced use therapy, intensive training, functional electric stimulation (FES), Body Weight Supported Treadmill Training, Virtual Reality Therapy.