



NEURORECOVERY NETWORK

The NeuroRecovery Network (NRN) is designed to provide and develop therapies to promote functional recovery and improve the health and quality of life of people living with paralysis. The NRN translates the latest scientific advances into effective, activity-based rehabilitation treatments.

Shepherd Center is one of seven rehabilitation centers that have partnered with the Christopher and Dana Reeve Foundation and the Centers for Disease Control and Prevention (CDC) as part of the NeuroRecovery Network.

The NRN program at Shepherd Center is staffed with a group of dedicated professionals who have received specialized training to deliver the NRN's therapies. The staff includes center directors, physicians, administrative and clinical supervisors, data managers, physical therapists, rehab technicians and case managers.

The NRN is an intense treatment program in which individuals participate in therapy five days per week for 1.5-hour sessions each day. The minimum number of sessions that Shepherd Center recommends is 20 sessions. However, Shepherd Center has found that many individuals benefit from participating in more than 20 sessions.

WHAT IS LOCOMOTOR TRAINING?

Locomotor training is the method of physical therapy currently employed by the NRN. In locomotor training sessions, the participant is suspended in a harness over a treadmill, while specially trained therapists move their legs to simulate walking. As the individual regains function, they move from the treadmill to walking over ground.

Locomotor training derives from recent advances in scientific understanding about neural plasticity (the ability of the neurons in the nervous system to develop new connections and "learn" new functions) and the role the spinal cord plays in controlling stepping and standing. Locomotor training works to "awaken" dormant neural pathways by repetitively stimulating the muscles and nerves in the lower body.

DATA COLLECTION INFORMATION

Data collected from evaluations and sessions with participants in the NRN will become part of a network-wide database that contains comprehensive medical and functional information about the progress of each individual. By collecting and analyzing this information, the NRN will be able to accurately measure program outcomes.

CRITERIA FOR ADMISSION TO THE NRN PROGRAM

Individuals selected for the NRN must meet the following guidelines:

- Not actively participating in an inpatient rehabilitation program.
- Stable with no deteriorating medical condition. No pacemaker present.
- Non-progressive spinal cord lesion at level T10 or above; T11 and T12 may be considered in the absence of lower motor neuron signs.
- Have some lower extremity movement (if spinal cord injured, ASIA C or D with upper motor neuron lesion in the absence of anti-spasticity medication).

The following diagnostic groups may be included in the NRN:

- Traumatic
- Transverse myelitis
- Spinal cord infarct
- Surgically decompressed primary tumor (excluding radiation and chemotherapy)
- Not ventilator dependent.

MORE INFORMATION

To get additional information, contact Erin Cuning at 404-350-7309 or email her at erin_cunning@shepherd.org. To set up an evaluation at Shepherd Center, please contact Neile Manning at 404-350-3102 or email her at neile_manning@shepherd.org

PARTICIPANTS' FREQUENTLY ASKED QUESTIONS

Who qualifies to participate in the NRN?

The program is open to individuals with an incomplete cervical or thoracic spinal cord injury who have some movement and muscle tone in their legs.

What steps does one take to receive treatment by the NRN?

Individuals must have a referral from a physician to receive this therapy. All potential participants must be seen by the NRN physician and physical therapists at the NRN facility to be screened for any complicating medical issues that would make this therapy inappropriate. Following this evaluation, if deemed appropriate for this therapy, a plan of treatment will be established.

How long will the course of therapy take?

The average person receives the therapy for one to three months. Each participant is re-evaluated every 20 sessions. At that time, the NRN physicians and therapists will make any adjustments to the number of days per week and talk about the goals for continuation in the program.

How much time will each locomotor training session take?

Each session generally lasts one and a half hours. When an individual enters the program, they start five days per week. As they progress through the phases of recovery, the number of days per week can decrease to four days per week and then to three days per week.

What is the cost of receiving therapy through the NRN?

Who will pay for it?

NRN sites are committed to working with every individual to secure full reimbursement for participating in this program. It is expected that the costs will be covered by your insurance company.

What should I bring to each session? Do I have to buy special equipment?

Participants need to bring loose-fitting clothes and well-fitting tennis shoes appropriate for physical activity. The equipment needed will be provided by the NRN.

What results can I expect? What long-term improvements to my health will this therapy provide?

A range of results and health improvements are reported in the scientific literature; others are beginning to emerge as we apply this therapy to humans. What we know is that results will vary from individual to individual. No two NRN participants will respond in exactly the same way, nor is each participant likely to experience the entire range of possible changes and improvements. This therapy may contribute to improved cardiovascular and pulmonary function and blood flow to the arms and legs. In some individuals, it may boost the healing potential of the skin, help increase bone density and improve bladder function. Functional results among NRN participants have ranged from improved trunk stability to recovery of standing and stepping ability.

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