



## NeuroRecovery Network



*Go Forward.*

**NeuroRecovery Network (NRN)** is a cooperative network of cutting-edge rehabilitation centers designed to provide and develop therapies to promote functional recovery and improve the health and quality of life of people living with paralysis. Funded by the Christopher & Dana Reeve Foundation through a cooperative agreement with the Centers for Disease Control and Prevention, the NRN translates the latest scientific advances into effective, activity-based rehabilitation treatments.

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

### **What is Locomotor Training?**

Locomotor Training is the method of physical therapy currently deployed by the NRN. In Locomotor Training sessions, the body of the paralyzed patient is suspended in a harness over a treadmill, while specially-trained therapists move their legs to simulate walking. As the patient regains functioning, they move from the treadmill to conventional walking.

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—allowing patients whose lower bodies are completely disconnected from any input from the brain to regain walking ability.

### **Community-Based NeuroRecovery Network Facilities**

In an effort to provide a continuum of care in the area of health promotion, community-based NeuroRecovery Network facilities provide individuals with paralysis the opportunity to be "fit for life." These community-based NRN facilities host an activity-based exercise program designed specifically for individuals with physical disabilities who are living in the community. These fully accessible facilities are designed to assist clients in the improvement of cardiovascular/aerobic fitness, muscular strengthening and flexibility. The Reeve Foundation believes that these community-based facilities will enable a more rapid expansion of the NRN program nationwide, which means that more individuals who are spinal cord injured will have access to its cutting-edge activity-based treatments.

### **Data Collection Information**

Participants in the NRN will become part of a network-wide database that is collecting comprehensive medical information about the progress of each patient. By collecting and analyzing this information, the NRN will be able to accurately measure program outcomes.



## Patients' Frequently Asked Questions

(applicable to NeuroRecovery Network Centers only)

### Who qualifies to participate in the NeuroRecovery Network?

At the present time, the program is open to individuals with an incomplete cervical or thoracic spinal cord injury who have some movement or muscle tone in their legs.

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

Patients must have a referral from a physician to receive this therapy. All potential patients 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 three to four months, and will undergo around 60 sessions. Each patient 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 the next 20 visits.

### How much time will each Locomotor Training session take?

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

### What is the cost of receiving therapy through the NRN?

#### Who will pay for it?

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

### 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 human patients. What we know is that results will vary from patient to patient. No two NRN patients will respond in exactly the same way, nor is each patient 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 patients, it may boost the healing potential of the skin, help increase bone density, and improve bladder function. Functional results among NRN patients have ranged from improved trunk stability to recovery of standing and stepping ability.

For Frequently Asked Questions about community-based facilities, please visit [www.christopherreeve.org/nrn](http://www.christopherreeve.org/nrn)



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### NeuroRecovery Network Centers

#### NRN Director:

Susan Harkema, PhD, Department of Neurological Surgery,  
Kentucky Spinal Cord Injury Research Center, University of Louisville

#### NRN Assistant Directors:

Andrea Behrman, PhD, PT, University of Florida  
Sue Ann Sisto, PT, MA, PhD, Stony Brook University

For information about enrollment, please contact each center:

#### **Boston Medical Center, Boston, MA**

Jane Wierbicky, RN, [jane.wierbicky@bmc.org](mailto:jane.wierbicky@bmc.org)

#### **Frazier Rehab Institute, Louisville, KY**

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#### **The Institute for Rehabilitation and Research, Houston, TX**

Daniel Graves, PhD, [Dan.Graves@memorialhermann.org](mailto:Dan.Graves@memorialhermann.org)

#### **Kessler Medical Rehabilitation Research and Education Center/**

#### **Kessler Institute for Rehabilitation, West Orange, NJ**

Gail Forrest, PhD, [gforrest@kesslerfoundation.org](mailto:gforrest@kesslerfoundation.org)

#### **Magee Rehabilitation Hospital, Philadelphia, PA**

Mary Schmidt Read, PT, DPT, MS, [mschmidt@mageerehab.org](mailto:mschmidt@mageerehab.org)

#### **Ohio State University Medical Center—Dodd Hall, Columbus, OH**

D. Michele Basso, EdD, PT, [Basso2@osu.edu](mailto:Basso2@osu.edu)

#### **Shepherd Center, Atlanta, GA**

Keith Tansey, MD, PhD, [keith\\_tansey@shepherd.org](mailto:keith_tansey@shepherd.org)

### Community-Based Facilities

#### **NextStep Fitness, Lawndale, CA**

Susan Moffat, [management@nextstepfitness.org](mailto:management@nextstepfitness.org)

#### **Frazier Rehab Institute—Community Fitness and Wellness Facility, Louisville, KY**

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