

Locomotor Training

Advances in research suggest that functional neuro-recovery offers tremendous potential in rehabilitation medicine. The rewiring of neural pathways, or the recruitment of new pathways to control movement, offers hope for the restoration of function following traumatic injury.

To harness this potential, Helen Hayes Hospital offers locomotor training using the state-of-the-art TheraStride system. The training is available to both inpatients and outpatients with incomplete spinal cord injury, as well as to patients with traumatic brain injury and stroke.

We now know that the central nervous system is malleable and can still adjust and relearn post injury. Locomotor training is an activity-based rehabilitative strategy that provides the sensory experience of walking, with the goal of re-training neural pathways, ultimately resulting in ambulation.

The TheraStride combines a support harness system and a treadmill with computer software that measures and evaluates the patient's progress. Trained physical therapists provide the necessary manual assistance, facilitating extension of the hip, knee and ankle. Following step training using body weight support on a treadmill (BWST), the patient then progresses to over-ground walking training and finally to community ambulation training.

Locomotor training helps to improve balance, motor control, weight-bearing ability and there-creation of a natural gait. While it is extremely appropriate for certain spinal cord injury patients, it is also a viable rehabilitative tool for individuals with stroke and other neurological conditions.