



Locomotor Training Program at The Children's Institute of Pittsburgh

The Children's Institute has extensive experience helping children and youth recover from spinal cord injury, brain injury, stroke and other neurological conditions. Now, The Children's Institute is one of a select few facilities offering a [Locomotor Training Program](#) on an outpatient basis, which aims to improve patients' walking pattern, trunk strength or bowel and bladder function depending on each patient's type of neurological impairment.

Our program achieves individualized physical therapy goals by training the proper muscles and developing balance. Locomotor training focuses on repeated cues to the correct muscle groups at the correct times during functional tasks, such as • walking • standing • moving from sitting to standing • maintaining balance in sitting or standing • running. The frequency of practice and hands-on staff improve the patient's functional skills. We have several treatment paths available, tailored for each patient.

The Locomotor Training Team

Throughout the therapy, up to four staff will be involved in the patient care, including physical therapists, physical therapy assistants and locomotor technicians.

This [high ratio of staff-to-patient](#) is important to encourage the use of the correct muscles, maintain the best posture, and allow for safe activities.



Guiding Principles

We use four principles throughout the patient's treatment session and also to create the patient's home exercise program.

1. Increase the amount of weight that the patient places on his/her legs during activity, while decreasing the amount of weight used by his/her arms.
2. Provide regular and correct hands-on cues to the patient while he/she is performing functional activities.
3. Provide the patient with enough hands on support to make sure they have good posture during all functional activities.
4. Maximize the level of independence for the patient, while decreasing the compensations he/she uses to perform functional activities.



Locomotor Training Sessions

A typical locomotor session will last 1½ hours and occurs 3 to 5 times a week. The first 30 minutes of the treatment session prepare the patient for activities; this may involve stretching and putting on a support harness.

Following this warm-up, the next part of the treatment session is spent on a treadmill. The patient is suspended over the treadmill by the harness. A computer that is part of the specialized treadmill system used in the Locomotor Program adjusts the amount of weight that the patient puts on his or her legs. Adjusting the amount of weight that a patient uses on a treadmill is called body weight support (BWS). The BWS *and* the hands-on placement of up to four staff members is what makes this program distinct from other programs that may only use BWS or mechanical gait training.

The last portion of the treatment session focuses on practice of skills on the ground and planning how the patient will carry over with activities at home and in the community.

Who We Treat

At this time, referrals for the Locomotor Training program are being accepted for individuals with any neurologic dysfunction. They must be evaluated for appropriateness by our therapy team prior to initiating this intervention.

Participants also must meet the following requirements:

- Be no taller than 6'6"
- Weigh less than 300 pounds
- Tolerate supported standing for an hour
- Commit, along with the caregiver, to therapy 3-5 times a week for several weeks
- Be able to carry over therapy activities at home
- Provide a physiatrist's consent