

## BODY WEIGHT SUPPORTED TREADMILL TRAINING

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### What is body weight supported treadmill training?

Body weight supported (BWS) treadmill training is a method for retraining walking. A person using BWS is supported by a harness that is suspended from a metal frame or from the ceiling (see photograph here below). The harness and BWS provide support and reduce the weight on your feet while you walk on the treadmill. The amount of support can be gradually increased or decreased according to your particular needs. For example, if your therapist increases the treadmill speed, you might need more BWS for a short time as you try to keep your balance and posture while walking faster.



Front view of a body weight support system with an overhead suspension and harness that supports the subject on the treadmill.

### Why use body weight supported treadmill training after a stroke?

Some people have difficulty walking after a stroke. BWS treadmill training may be a safe way for you to begin walking when you are not able to walk safely by yourself. BWS allows some people to start walking earlier after a stroke, especially if they currently require two people to help them walk over ground. It also allows some people to practice walking when they are not ready to do so over ground.

### Does it work for stroke?

The best research studies on BWS and treadmill training have shown differing results depending on the severity of the walking deficit. In general, benefits have been found in people who have serious problems walking after a stroke. The benefits are less certain for individuals who only have mild difficulty walking after a stroke.

- For those with serious walking deficits, a number of high quality research studies have shown that BWS treadmill training is more effective than usual walking training for improving speed of walking, endurance, balance, motor recovery, and functional walking.
- For those with mild walking deficits, high quality studies have not found that BWS treadmill training is more effective than usual walking training.

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### **What can I expect?**

BWS treadmill training is a fairly new treatment. You may be receiving rehabilitation in a setting that has the equipment and if so, you may be offered this treatment. Many different harnesses have been designed to support the body. However, there are some aspects of this intervention that are common to all the equipment used:

- You will wear a harness over your clothes.
- The harness is then fastened to an overhead suspension system.
- The therapist providing the therapy will decide on how much of your body weight is supported by the harness and how much is supported by your legs.
- When the therapist adjusts the BWS it will feel like you are being lifted slightly off the floor.
- The therapist will then start the treadmill at a very low speed. The therapist can then increase the speed as your walking ability improves.

### **Side effects/risks?**

There are no specific side effects of BWS treadmill training. In fact, research has shown that it is easier on your heart if you walk with your body weight supported – so after a stroke it may be easier for you to practice walking using BWS as compared to walking over ground.

Generally, people who have used BWS tell us that they feel more confident because they are supported by the harness and can practice walking without the risk of a fall.

However, there are some patients who have told us that they find the harness uncomfortable to wear – and some who do not enjoy walking on a treadmill.

### **Who provides the treatment?**

BWS treadmill training is typically performed by a physical therapist. An assistant may be present to help you get ready by putting on your harness and staying with you during rest periods. This equipment is quite costly and it is quite a labor-intensive treatment, so the rehabilitation center where you are receiving rehabilitation may not have a BWS system. If further research continues to show

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benefits for those with severe walking difficulties, it is likely that more rehabilitation centers will purchase the equipment.

### **How many treatments?**

The best exercise program design is unknown. However, in most of the studies that have found BWS treadmill training effective, the patients received the therapy 20 to 40 minutes (with rest periods in-between), 4-to-5 days a week, for at least 2 weeks, and sometimes as long as 6 weeks.

### **How much does it cost? Does insurance pay for it?**

In Canada, BWS treadmill training is covered if you are receiving care in a rehabilitation setting that offers this form of treatment. If you are receiving private rehabilitation you will have to verify that your insurance covers the cost of BWS treadmill training.

### **Is body weight supported treadmill training for me?**

If your gait has been seriously affected by a stroke, BWS treadmill training could help you regain endurance, control of your lower limbs, and cardiovascular health. However, further studies are needed to better understand who can benefit most from this type of training.

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