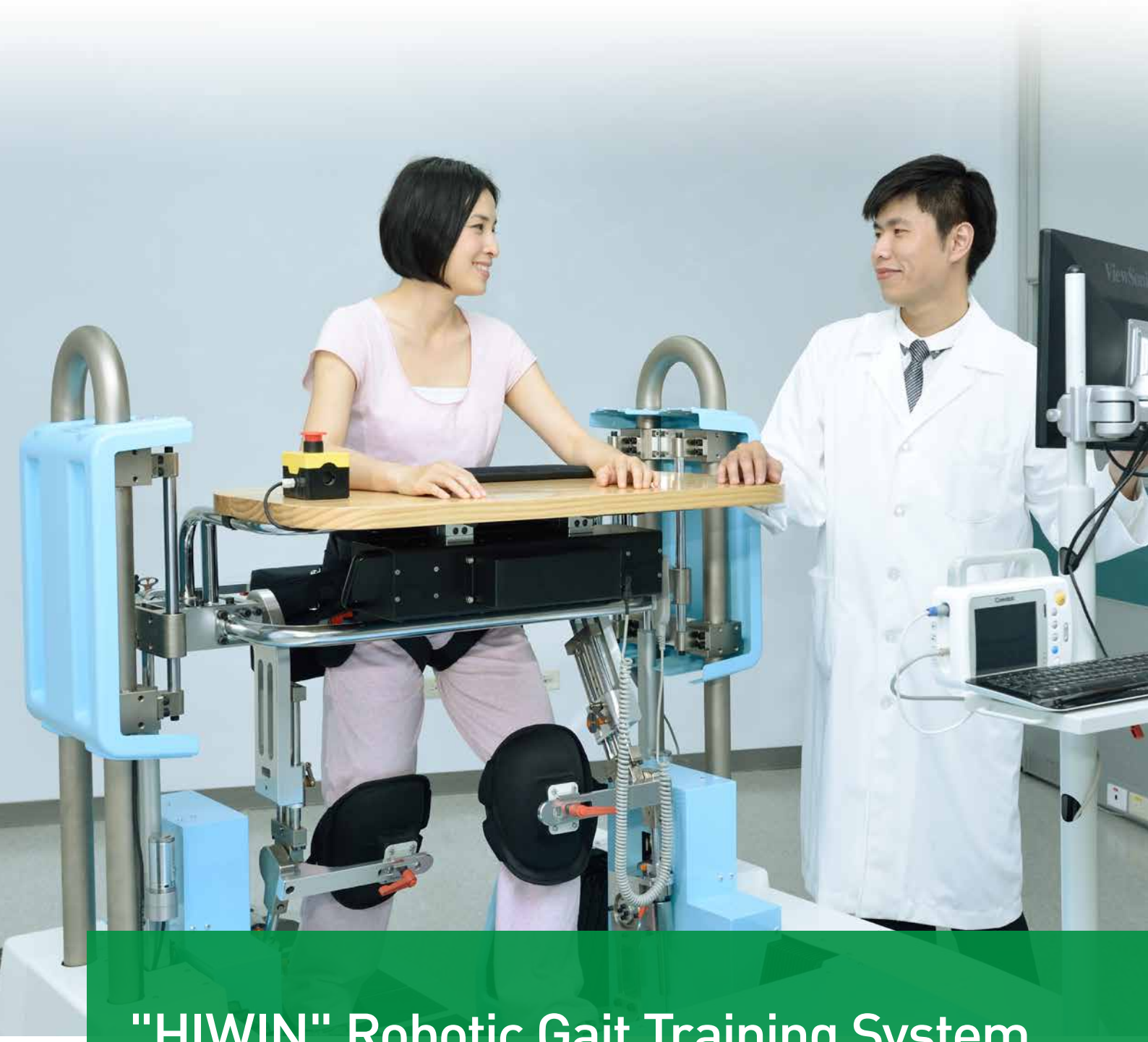
HIWIN®
HealthCare



"HIWIN" Robotic Gait Training System

(Non-sterile) MRG-P100

www.hiwin.tw

Robotic Gait Training System MRG-P100

The MRG-P100 is an automatic gait trainer that is space efficient and easy to operate. The unique non suspension system enables patients to receive weight-bearing training in a comfortable environment. The exoskeleton guides movement for gait re-education. It provides intensive trainings for patients to enhance their motivation and achieve optimal results.

Intended use

- Incomplete spinal cord injury
- Stroke
- Traumatic brain injury
- Multiple sclerosis
- Muscular dystrophy
- Walking difficulty caused by neuropathy or advanced age to improve the limb action and physical ability

Leg length range: thigh 38-50 cm, calf 40-52 cm
Maximal user's weight: 135 kg
Machine weight: 450 kg
Dimension:
(1) Machine only: 1538(L)x1290(W)x1580(H) mm
(2) With patient transfer system:3000(L)x1290(W)x1580(H) mm
Power: 220-230V, 50 Hz/60Hz
Accessories: Biofeedback monitoring system

How It Works

Early Intervention

According to the principle of neuroplasticity, providing specific training and sensory input intensively as early as possible are essential for patients to strengthen synapses and facilitate movement. For acute patients, the exoskeleton guides their lower extremities and regain walking ability.

Weight Bearing

One of the functions of lower extremities is to support body weight. If legs are load free for a period of time, muscle atrophy is likely to occur. The pelvis and knee support system helps patients to be in an upright position to train their anti-gravity muscles. In addition, weight bearing training builds bone density and decreases the likeliness of Osteoporosis.

Repeated Stepping

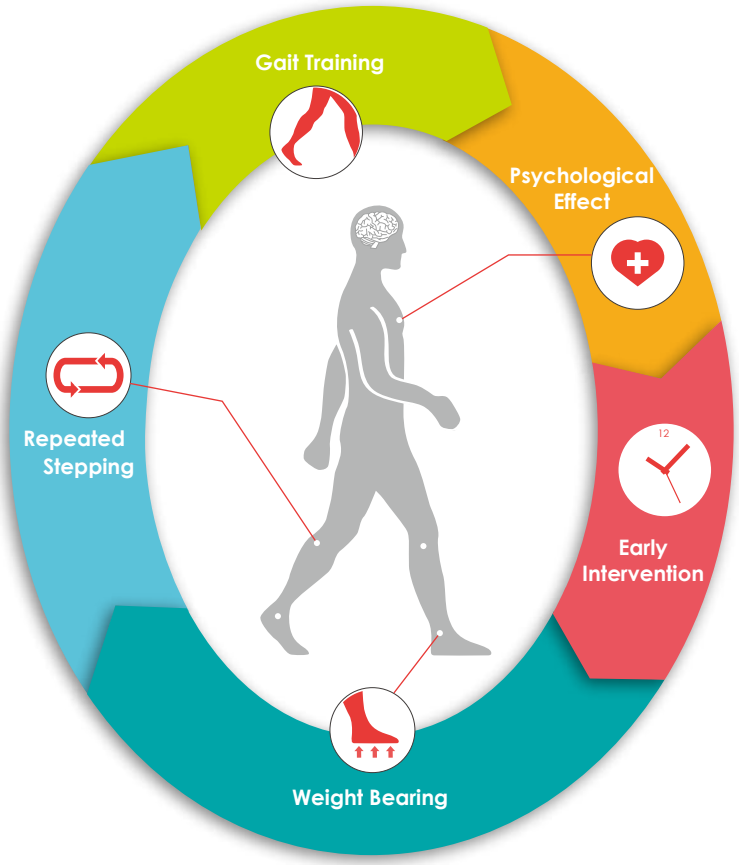
Repeated step exercise enhances joint proprioception in pelvis and knee joints. It allows a patient's brain to interpret the current position of joint and strengthen body control ability. Performing range of motion exercise maintains the muscle length and prevents joint contracture. It can also boost blood circulation.

Gait Training

The exoskeleton guides the patients to perform gait training to enhance neuron circuit reconstruction and reorganizes neural mechanisms improving performance.

Psychological Effect

Staying in an upright position helps patients to organize their cognitive function. Patients can build self-confidence and boost their motivation in treatment by practicing walking.



Product Features

3 in 1 Training System

This equipment is an automatic training system that provides a more efficient and safe treatment for patients and therapists. The main functions are as follows:

Standing

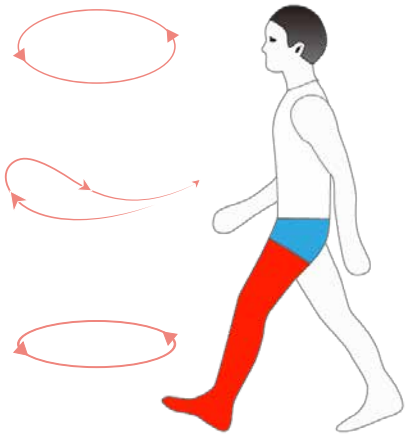
The equipment has knee and pelvis support to help patients in standing position and improves their anti-gravity abilities.

Stepping

The automatic equipment provides repetitive step training. It assists Central Nervous System to relearn movement via intensive practice.

Gait Training

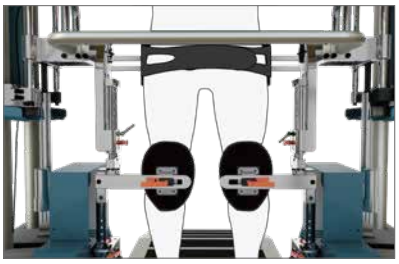
The adjustable exoskeleton guides patients' lower extremities to perform gait pattern. The system offers various gait patterns and provides customized trainings.

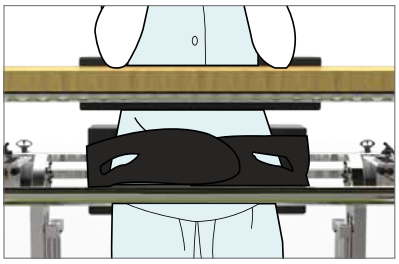


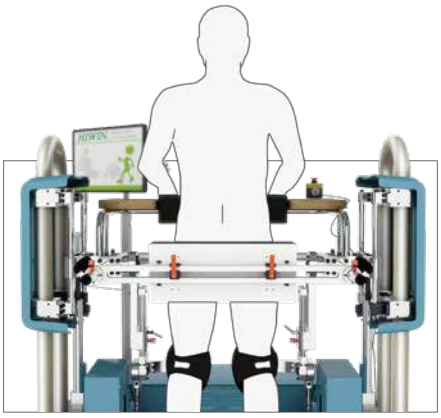
Non Suspension Support Design

Knee, Pelvis and Abdominal Support

The patented support system enables patients in the early stage of rehabilitation to undergo gait training while standing.







Quick Setup

The transfer from wheelchair to the machine can be completed with the patient transfer system, which promotes higher utilization of machine in hospitals.

Less Space

The dimensions of the system are one third smaller than comparable suspension systems.

Intelligent Software

The system is equipped with an intuitive user interface to operate, manage and record patients' data. The software also provides biofeedback monitoring to ensure patient safety.

User management
- Operator
- Patient
- Indications
- Activation key

Training management
- Traceable results
- Training plans
- Customized gait patterns

Intelligent monitor
- Spasticity detection
- Biofeedback monitoring

Safety Design

Strong Support System :

Provides sturdy support for patients during training for safety and better performance.

Vital Sign Monitor :

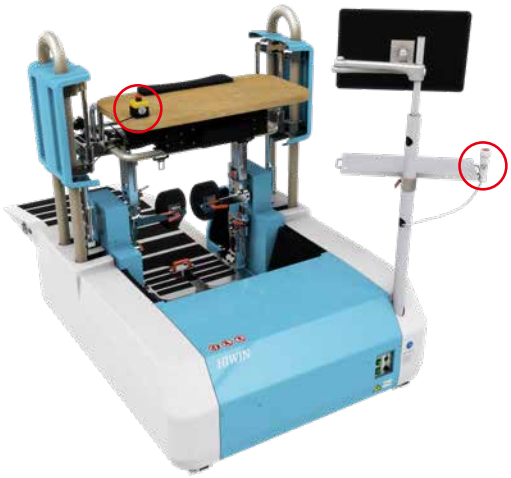
Patient's condition is monitored during training with quick response to urgent situations.

Emergency Button :

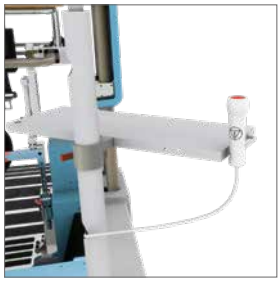
Buttons are set on the support table and near the screen allowing therapists and patients access.

Maintenance Notification :

The software offers machine maintenance reminders to keep it in good condition.



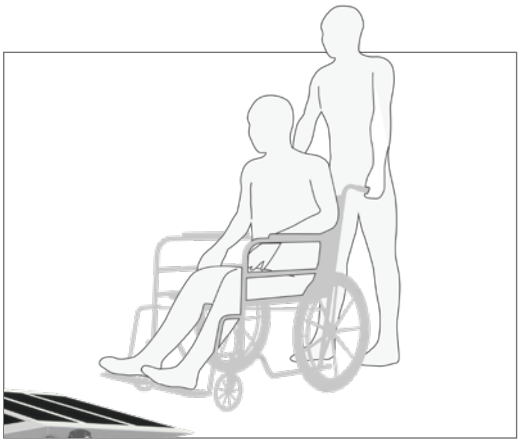
For patient



For therapist

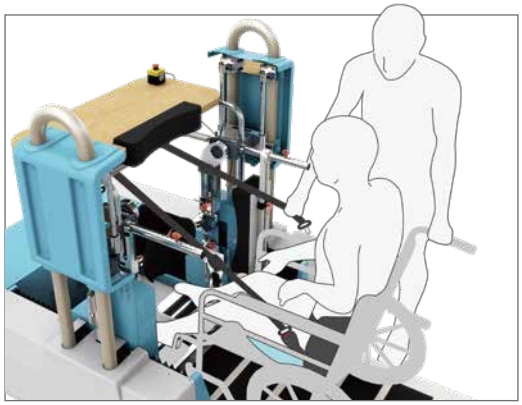
Powered-aided Sit to Stand

This system offers an electrical driven way to transfer patients. It can be operated by one therapist via the pelvis support harness and the power rise assistance. It enables safe and energy-saving transfer and reduces the transfer time.

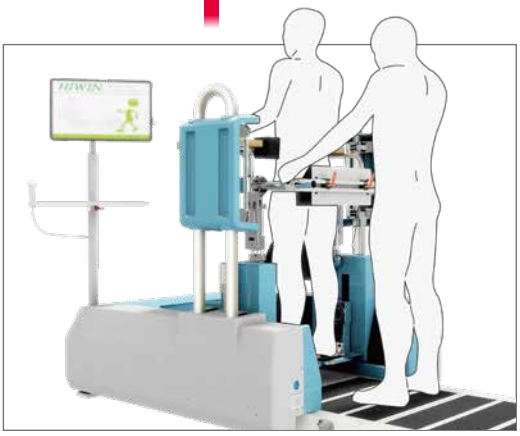


1 Move the wheelchair to the ramping system

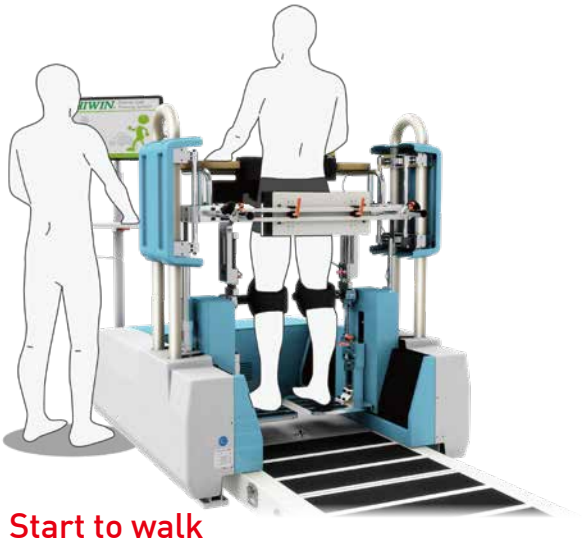
2 Wear the pelvis support harness



3 Connect the belt to the pelvis support harness



4 Use the remote control to pull the patient up



5 Fix the pelvis support pad

Start to walk

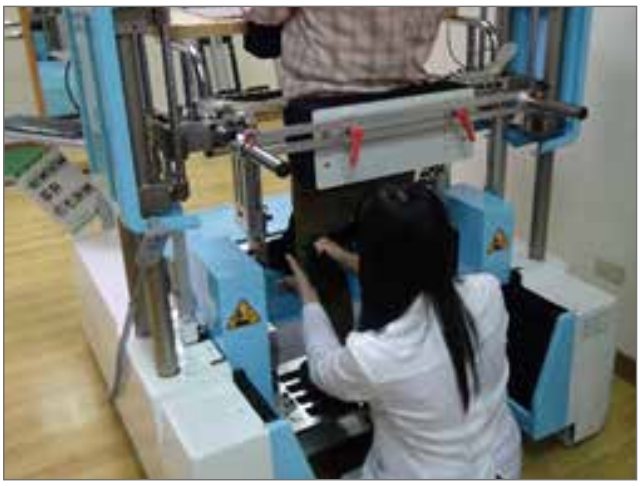
Expert Opinion

Physician

"This equipment helps patients suffering from stroke, spinal cord injury or deconditioning to regain walking ability. Staying in an upright position has positive effects on patients mentally and physically. It helps patients tremendously."

Therapist

"The interface of the robotic gait training system is intuitive and easy to operate. Therapists can supervise patients' heart rates and blood pressure during training. Patients can be well-supported on the machine and received positive feedback physiologically (e.g. muscle strength and endurance) and psychologically (e.g. sense of achievement). The equipment is a good option for rehabilitation programs."



User's Feedback

Miss Lin

"I am a patient with neuromuscular degeneration disorder and my walking ability was affected due to the disease. I have used this machine for over six months. I was not quite sure about the treatment effect in the beginning. After receiving the programs twice a week, I do feel the progress. It improves my walking ability such as step length, posture and balance. Now, I can walk freely in my house without using a cane. I will continue to receive the treatment to enhance my walking ability."

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