



Smart Solutions for Perfection



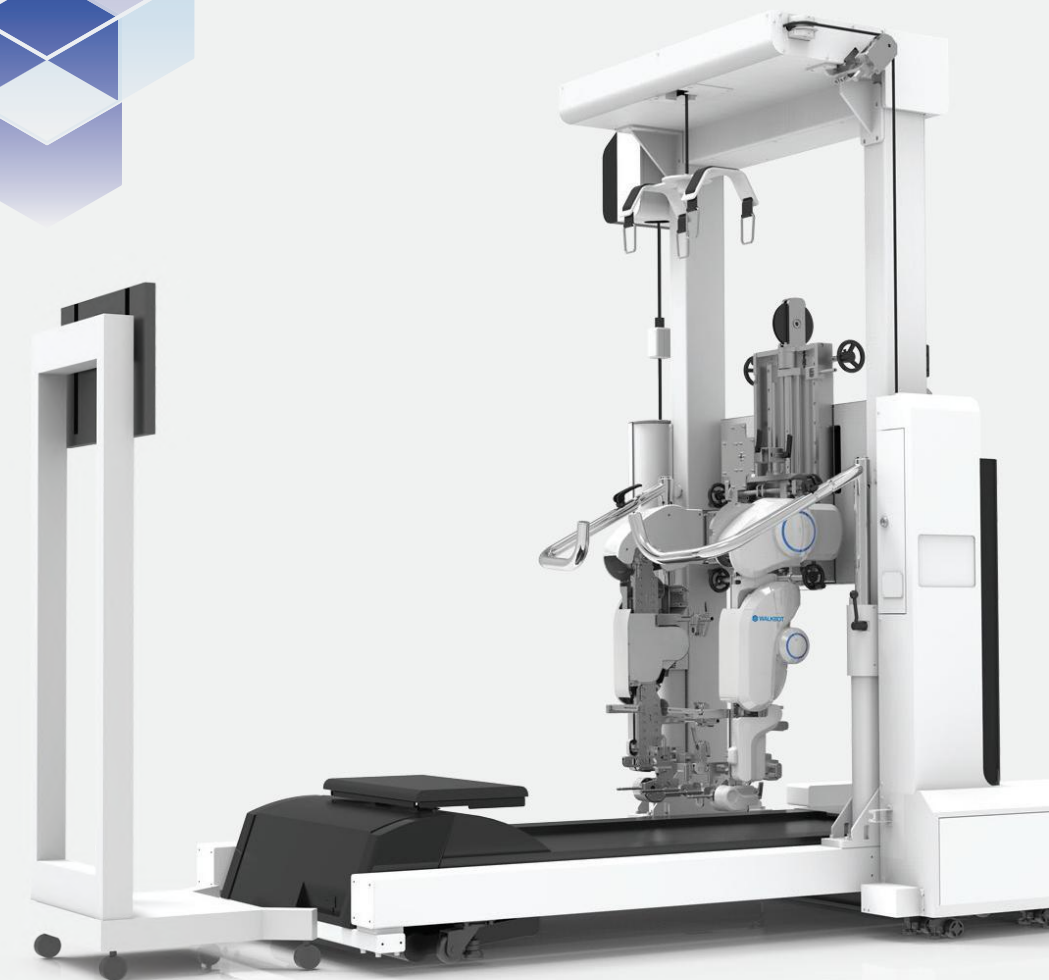
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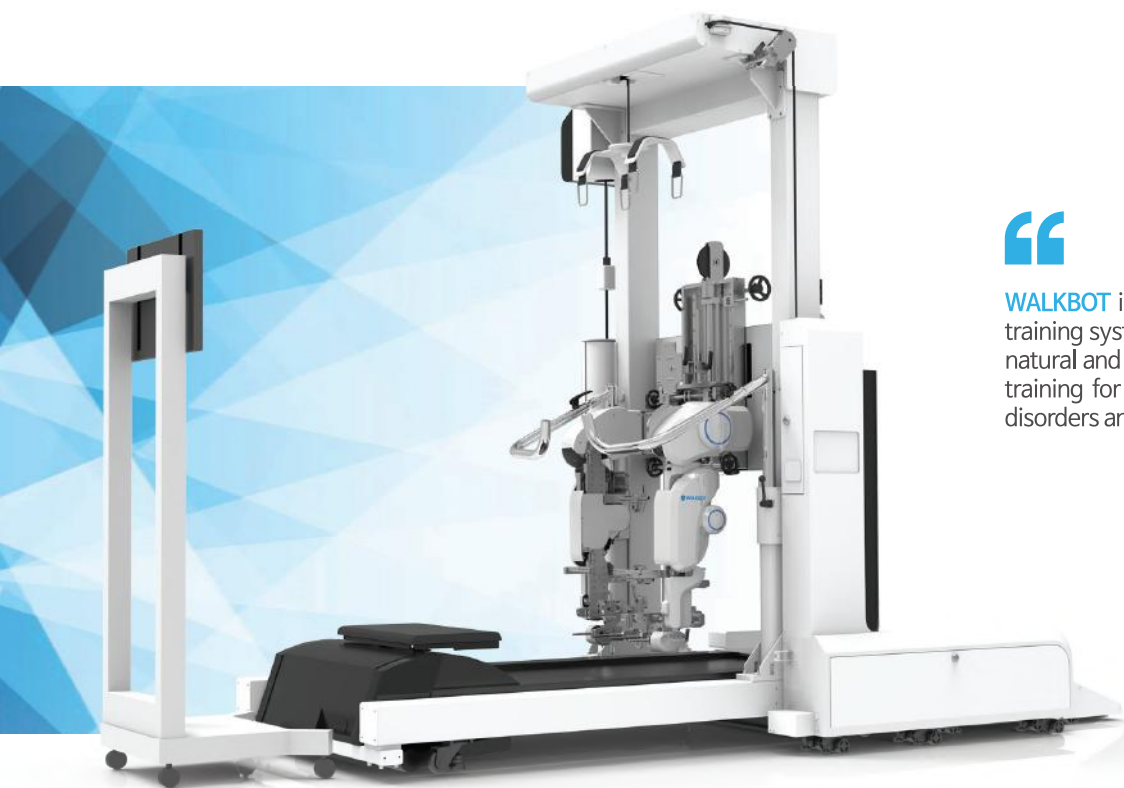
Advanced Solutions

- AUGMENTED REALITY 3D SOFTWARE
- FORCE PLATE
- GAIT ANALYSIS



WALKBOT Smart Solutions

Walking is one of the most fundamental activities in daily life and also one of the greatest wishes for patients with ambulation impairment. WALKBOT Solution gives you the hope and conviction that you will be able to walk again.



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WALKBOT is a superlative robotic gait training system that provides the most natural and accurate gait rehabilitation training for patients with neurological disorders and gait impairments.

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AUGMENTED REALITY 3D SOFTWARE

WALKBOT provides exciting customized 3-dimensional augmented reality exercise games so that our clients actually do not perceive the gait training as a form of therapy. Rather, they enjoy walking in interactive and ecologically natural or virtual environments as used by the software.

Game-Like Rehabilitation Training



Go World immerses patients in the training as if they were walking around famous tourist attractions around the world.



Gyeongbokgung Palace, the most representative palace of South Korea, is reconstructed in '**Go Palace**' so that the patient enjoys the training. This game allows the patient to select left or right direction by their voluntary effort.



'**Go Under Sea**' enables patients to explore the beautiful underwater world during their training. While following the path of the aquarium, the patient should continuously adjust the left and right direction with their voluntary effort. Their level of participation in the training will be increased effectively.

Go World – Free / Mission Walking Mode



Go World provides '**Goal-oriented training**' motivating the patient to reach goals (missions) in a map, as well as free walks on the map as desired.

Planet Runner (Side Scrolling Game)

Planer Runner enables the patient to be immersed in the training as if playing a game.



Before starting the game, the patient can select the map, stage and character of the game. Voluntary effort of the patient can be reflected in movement of the character in the game in aspects such as height of the jump.



During the game, the patient can gain points when they earn gold coins through jumping. In addition, various items such as time extension and magnets are provided so that the patient can participate in WALKBOT training as if they were playing a game. After finishing the game, WALKBOT provides not only walking training information but also motivation for further walking training through game ranking management.



Synchronization of Hip, Knee and Ankle joint

The most physiologically natural gait patterns can be provided with this world's-only optimization and synchronization technology for hip, knee and ankle joint movement.



Automatic Adjustment System

This brilliant system provides 'Patient-specific' gait pattern by adjusting leg length of the robot automatically according to each patient's body size. This way, the system enables fully optimized gait training.



Interactive Training & Impedance Control

Through real-time interaction with the patient, WALKBOT can detect the patient's voluntary efforts and provide the most suitable training environment with optimized gait pattern resulting in much higher levels of self-activation and improved therapeutic outcomes.



Functional Assessment

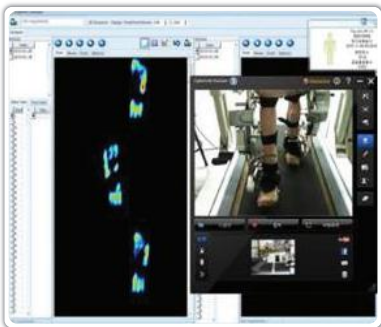
The patient's ROM, stiffness, and force can be measured and the therapist can also assess patients' progress numerically using a variety of assessment tools.



FORCE PLATE

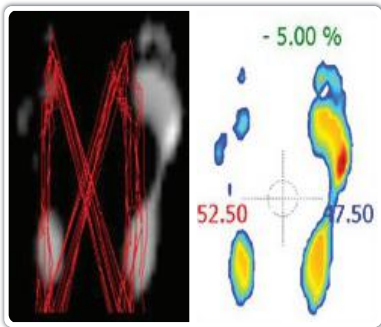
It analyzes and corrects the patient's gait through measuring the center of pressure, and gait balance with time synchronous video recording.

Measurement & Analysis of Dynamic Plantar Pressure



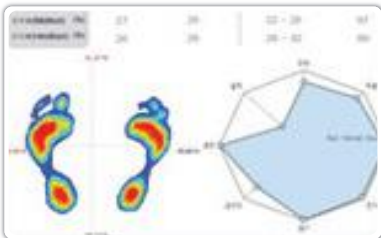
In addition to video analysis through a front camera, the Force Plate system captures the static and dynamic pressure distribution when the patient is walking on the treadmill.

Also, it helps the patient to walk correctly by measuring and analyzing dynamic plantar pressure.

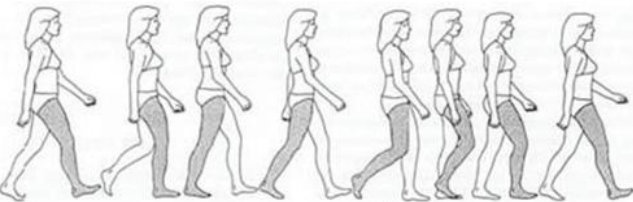


Center of Pressure

Pressure distribution can be easily analyzed & visualized using butterfly analysis. Additionally, accurate measurement of gait balance is possible by checking the balance of plantar pressure.



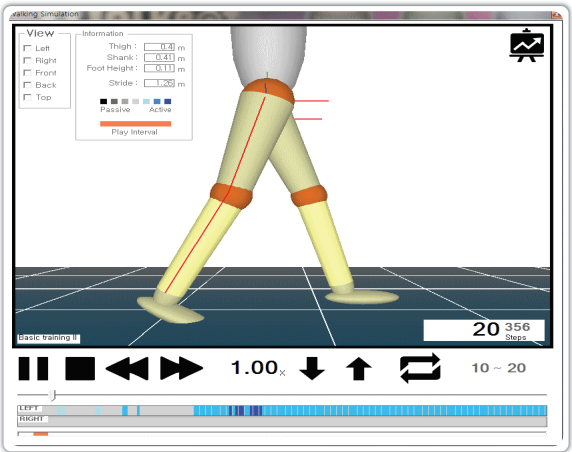
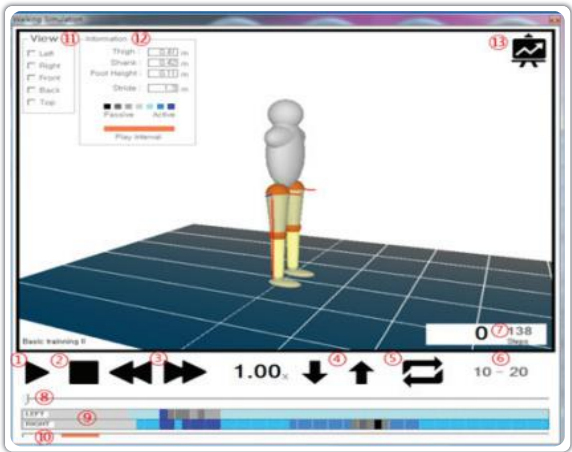
Various chart analyses and report function can be used to numerically measure the effect of WALKBOT training.



GAIT ANALYSIS

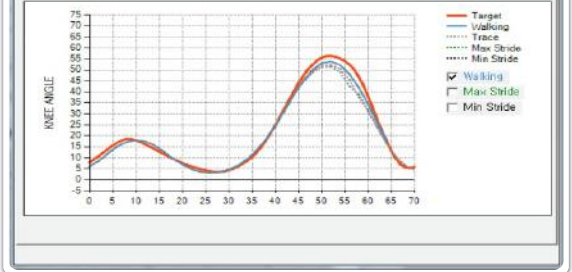
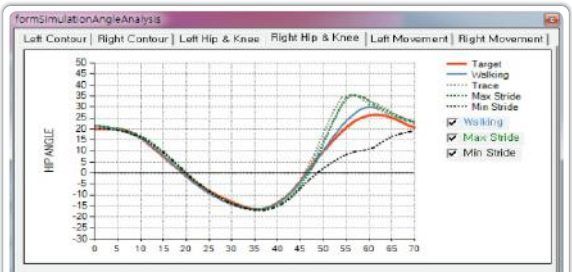
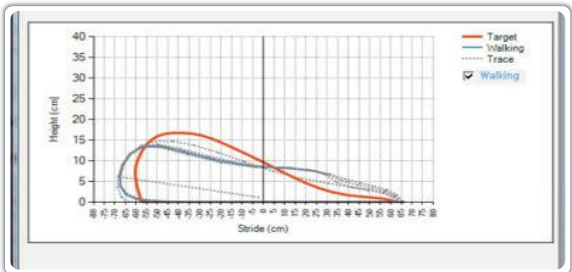
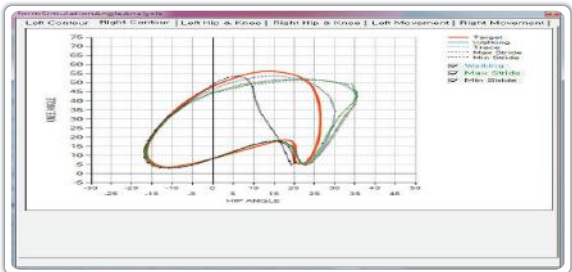
3D Gait Simulation

Data of the Patient's actual kinetic and kinematic performance during the training are recorded, and can be reconstructed as 3-dimensional image to analyze and rectify inaccuracies or imbalances.



Gait Pattern Analysis

The patient's gait pattern can be quantitatively analyzed through various graphs such as gait trajectory graph, hip & knee joint angle graph and ankle joint position graph.





Measurement & Evaluation

Measurement of ROM, stiffness and force allow therapist to effectively assess the patient’s recovery stage and establish optimized training plan for each patient. Additionally, the therapist can quantitatively evaluate the patient’s progress with various assessment tools.



Range of joint motion (ROM)

The effect of WALKBOT training can be checked in quantitative terms by measuring Active ROM before and after training. In case of severe rigidity, Passive ROM can be measured and used.

Stiffness

The principle of stiffness measurement is measuring the amount of resistance that a patient cannot accept while walking in a predetermined range of motion using robotic orthosis, and judging that amount of resistance.

Force

The principle of force measurement is measuring the strength generated when a patient attempts to move by their own strength while a stationary robotic orthosis positioned at a measurement point and judging that amount of strength in terms of force.

Session Report



Summarized training information can be provided through an intuitive session report.

Training information is abridged by session (day). The user can select the training period that they want to see.

By providing the average value, max & min value per session, the therapist and patient can easily see their progress of the training at a glance.

"Product Line-up"

		Adult			Pediatric	
		Walkbot® Premium	Walkbot®G	Walkbot®S	Walkbot®G(K)	Walkbot®K
Robot Orthosis	Robotic gait orthosis for adult	✓	✓	✓	Compatible	
	Robotic gait orthosis for pediatric		Compatible		✓	✓
	Synchronization of motorized Hip-Knee-Ankle drive	✓	✓	✓	✓	✓
	Automatic leg length adjustment	✓	Manual	✓	✓	✓
Reverse-weight system	Dynamic body weight support	✓	✓	Dual active	✓	Dual active
Option	Augmented reality feedback	✓	Optional	Optional	Optional	Optional
	Force plate	Optional	Optional	Optional	Optional	Optional
	3D motion analysis system	✓	Optional	Optional	Optional	Optional

"Technical Specifications"

	Walkbot® Premium	Walkbot®G	Walkbot®G(K)	Walkbot®S	Walkbot®K
Patient Height	140~200cm	132~200cm	86~148cm	140~200cm	86~148cm
Leg length (Hip-Knee)	350~480mm	330~480mm	210~350mm	350~480mm	210~350mm
Leg length (Knee-Ankle)	353~483mm	330~480mm	212~352mm	353~483mm	212~352mm
Dimensions (L x W x H)	380 x 200 x 257cm			390 x 168 x 257cm	390 x 168 x 240cm
Space requirements (L x W x H)	530 x 300 x 265cm			540 x 400 x 265cm	540 x 400 x 249cm
Power resources	AC 230V, 50/60Hz Single phase 10A				