

Sometimes in our lives a setback in movement and mobility, due to disease, trauma, or aging, adversely affects our quality of life. To regain mobility, restore and improve human performance, Motekforce Link draws on 15 years of experience in rehabilitation technology and virtual reality.



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### Find Out More About Us

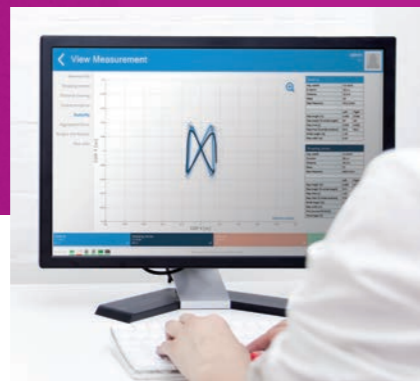
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## C-Mill

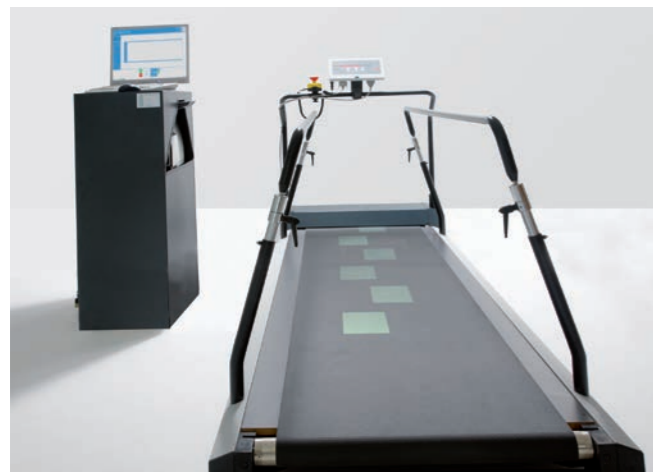
Evaluation and Training of Impaired Walking using Augmented Reality

# The C-Mill: for complete, advanced analysis and training of impaired walking

Many patients who suffer from a stroke, orthopedic problems, Parkinson's Disease, as well as many elderly people, struggle with everyday life because their ability to walk is impaired. For healthcare professionals, measuring this impairment is of crucial importance for their therapy sessions. In addition, the therapist needs targeted treatment options to improve limited walking functions.



Introducing C-Mill: With the C-Mill a patient's walking pattern can be evaluated and trained using an instrumented treadmill, which features visual and acoustic cues. The C-Mill automatically presents gait parameters such as stride length, width, frequency and symmetry, on a step-by-step basis. Obstacle avoidance strategies for training purposes can be imposed in a safe and controlled environment. The C-Mill offers flexible treatment and evaluation protocols without the need for attaching markers or wires to the patient, which thereby saves precious treatment time.



## Cueing: training gait with cues

A patient's walking pattern can be trained by projecting cues on the belt of the C-Mill. The cues automatically appear based on a patient's gait parameters. The therapist can adjust the patient's gait with just a few easy clicks, and monitor the immediate effects on a step-by-step basis. At the end of the session, a summary report is automatically generated for offline analyses or administration.

## Training

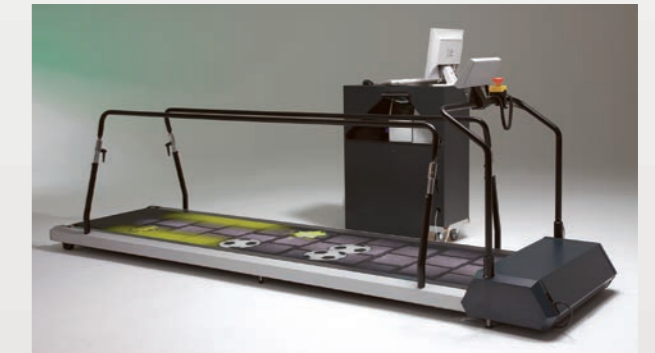
Another type of training can be obstacle avoidance training. While walking on the C-Mill, virtual obstacles can be projected on the exact position of footfall. By a simple click a therapist can influence the reaction time or size of an obstacle. A bigger training variation can be obtained with applications on the front display. By adding for example cognitive tasks on the front display a patient enjoys the presentation of cues and obstacles even more.

*"C-Mill is a unique development, in which a theoretical innovation has led to a practical, immediately applicable, user-friendly product for rehabilitation."*

P.A. KOPPE, MD. MEDICAL DIRECTOR AT REHABILITATION CENTRE AMSTERDAM.

## Gait analysis

A selection of gait parameters, such as step length, width, asymmetry and cadence, as well as obstacle avoidance performance, is evaluated automatically by the CueFors® software. The therapist can print gait assessment reports for comparison with previous sessions. All data are stored on the computer in an accessible patient database.



## Key Features

### Treadmill

The C-Mill treadmill has a standard belt walking area of 100 x 240 cm. Optional size is 70 x 300 cm.

### Platform

The vertical force platform is embedded and has a size of 100 x 240 cm, covering the complete walking area.

### Speed

The speed ranges from 0.1 to 12 km/h.

### Safety

For safety of your patient a safety frame is included.

### Projection

C-Mill's projection system displays real virtual objects creating an augmented reality for patient interactions during walking.

### Calculation

The system calculates spatio-temporal gait parameters online.

### Alignment

Stepping-stones are automatically aligned to meet and influence the patient's current gait pattern.

### Patients weight

The maximum weight of a patient on the C-Mill is 135 kilograms.

### Front display

Stimulates patients to 'look up' while scanning the floor for obstacles.

### Video

Integrated video analysis for evaluation of movement patterns.

### Computer

The computer, software, and projector are included.