www.locometrix.com

Locometrix®

FEEDBACK TRAINING

The active rehabilitation on treadmill

Symmetry

Regularity

Power

Frequency

Pathogenic shock waves

Frontal instability

Locometrix ® the good way of walking

Acitve recovery of walking by Feedback training on teadmill

1 SETUP

2 TREADMILL EXERCISE

3 READ THE RESULTS

PRACTICE

The acceleration sensor is placed at the waist. It measures the gait characteristics: regularity of walking, stride frequency, mechanical power, symmetry of the right and left steps and pathogenic shock waves. The measurements are calculated and displayed in real time during the treadmill exercise.
The therapist defines the walk parameter the patient has to train and the target to reach.
During the exercise, the therapist and patient check the work level in comparison to the target.
After some training, the patient can do the exercise alone by looking at the Locometrix feedback training screen.

▶▶▶ PRINCIPLE

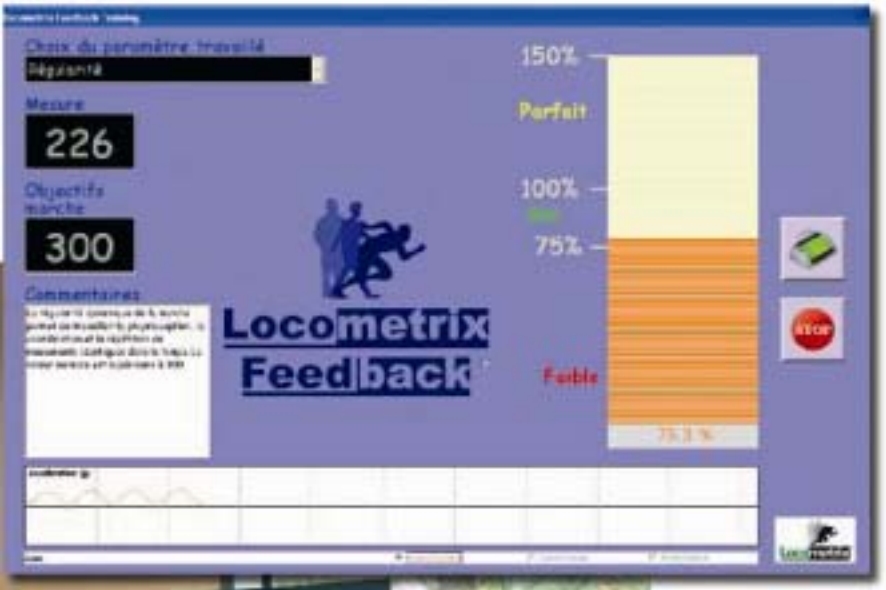
Locometrix© Feedback Training, in combination with a treadmill, offers to the therapist a complete solution for gait rehabilitation. In a first step patient's deficiencies are identified, and then the therapist recommends an active and specific rehabilitation work on treadmill to correct the weakness.

Facing the patient, the screen displays the target in order to monitor the level of the work: a diagram which scores in real time the performance helps the patient to achieve the recommended target.

www.locometrix.com

THE 3 MAJOR BENEFITS OF LOCOMETRIX® FEEDBACK TRAINING

- ▶ 1 a more rational therapy based on biomechanical measurements
- ▶ 2 faster progression of the rehabilitation using bio-feedback
- ▶ 3 active rehabilitation is more motivating for the patient

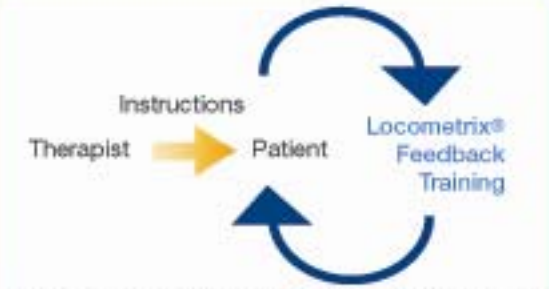


▶▶▶ TWO METHODS OF PRACTICE

1- Rehabilitation in assisted mode

At the beginning, the patient must be accustomed to the treadmill exercise. For this reason, the therapist should read himslef the screen and ask the patient to modify his motion.

2- Rehabilitation in feedback mode



When the patient feels more confortable on the treadmill, the therapist explains how to use the displayed information. Then the patient may work alone in feedback mode.

▶▶▶ APPLICATIONS

The following parameters are specifically trained

Steps	Parameter		Progress
1	Dynamic regularity of walking	▶	Proprioception, coordination and repetition of the same movement over time
2	Stride frequency	▶	Speed and stride length
3	Mechanical power	▶	Strength and muscle building
4	Symmetry of the right and left steps	▶	Balance of loading of the two limbs, coordination of the movements during the swinging phase
5	Pathogenic shock waves	▶	Improve the impact damping by the appropriate of foot landing and the type of shoes

► SCIENTIFIC PUBLICATIONS

- Accelerometric Gait Analysis for Use in Hospital Outpatients. Rev. Rhum.[Engl. Ed.] 1999, 66(7-9), 389-397.
- Reference data for normal subjects obtained with an accelerometric device. Gait and Posture, 2002; 16: 124-34
- Gait abnormalities in elderly fallers. Journal of aging and physical activity, 2003; 11: 39-51
- Analisis of gait disorders in Parkinson disease assessed with an accelerometer. Rev Neurol, 2003; 159: 786-9
- Cadence des pas et maladie de Parkinson, identification de sous-groupes. Annales de Réadaptation et de Médecine Physique 2005, 48, 439.
- Gait disorders in patients with fibromyalgia, Joint Bone Spine. 2006 Oct;73(5):543-6.
- The value of instrumental gait analysis in elderly healthy, MCI or Alzheimer's disease subjects and a comparison with other clinical tests used in single and dual-task conditions. Ann Phys Rehabil Med. 2009 May 28.

► CUSTOMER REFERENCES

Medical applications and rehabilitation

Rehabilitation, geriatric and neurology hospital departments (Paris, Lille, Rennes, Tours, Angers, Nantes, Nice, Toulouse, Grenoble, La Réunion.), France
Forein Universities : Liège, Gent, Québec
City of Bobigny's CPAM (French State Health Insurance)
Clinics specialised in rehabilitation : Clinique Coubert (77), Centre Argonay (Annecy), CERS Cap Breton, Kliniken Bad Neuenahr (Germany), Clinique de Valmont (Vevey Switzerland)
Pierre Fabre Médicament, Mycology Institute (AFM), Cities of Nantes and Alfort veterinary schools France
City center physician's offices for rehabilitation, rheumatology

Sport applications

Department of Biology of Physical Activity INSERM U902, University of Evry, France
National Rugby training Center, city of Marcoussis, France
Sport Universities of Grenoble, Marseilles, Amiens, Valence, France.

Podiatry applications

Guy Capron Company, podiatry officee, France
Sport Podiatry Total Feet Company, France.

►DESCRIPTION OF LOCOMETRIX ®

Feedback training

- Motion Sensor Locometrix® with an elastic belt
- Software Locometrix Feedback Training
- PC with flat screen
- Support table for PC and screen

► SENSOR TECHNICAL SPECIFICATIONS

- Acceleration sensor, three axes measurement in real time.
- Frequency 100Hz
- Full scale measurement + 6 g
- Resolution 0.001 g
- Maximum overload: 3000 g
- Data transfer via USB cable.
- Software Locometrix ® Feedback Training under Windows XP , XP, Vista
- EU Marking: EU Certification EMC 89/336/EEC
- Compatibility EMC Class IIa

Standards:
EN61000-6-3 (2001)
EN61000-6-1 (2001)
EN55022 (1998)
EN61000-4-2 (1995)
EN61000-4-3 (1996)

Centaure Metrix

Pépinière Genopole Entreprises
4 rue Pierre Fontaine
91058 EVRY Cedex
Manager: 33 (0)1 60 87 89 71
Marketing: 33(0)1 60 87 89 33
Email: direction@centaure-metrix.com

www.centaure-metrix.com