Precise Pulses – Optimised Support

The Functional Electrical Stimulation (FES) MyGait® system for drop foot and gait rehabilitation
Acts at just the right time
Functional Electrical Stimulation (FES) with MyGait®

Drop foot can be associated with neurological disorders such as stroke, multiple sclerosis, acquired and traumatic brain injury and incomplete spinal cord injury. This may lead to compensatory gait patterns that can lead to secondary complications.

MyGait®, a Functional Electrical Stimulation (FES) system from Ottobock, is a cuff-based surface stimulator. It provides both clinician and user with sophisticated, customisable and versatile stimulation profiles with the option of additional support via a second channel.

MyGait® offers an advanced, patient-focused solution for the treatment of drop foot and gait rehabilitation. Studies have demonstrated that early treatment intervention can lead to improved outcomes in functional mobility and improved quality of life for users.

The following pages provide an overview of the system to allow you to evaluate its benefits for your patients.

“It feels great to go sightseeing in a new city, like a "normal person". MyGait® increased my walking speed enormously. Crossing the road is no problem. I feel confident that I can safely reach the other side.”

Justin, 40 years (stroke at the age of 33)
Use MyGait® early
Indications and contraindications

The MyGait® electrical stimulator device is applied to the lower leg. It can be used in the earliest phases of rehabilitation. The sooner MyGait® is used after a stroke or brain trauma, the better the chances of regaining body functions.

**Indications**
The MyGait® stimulation system is suitable for patients with dorsiflexor weakness due to disease or injury of the upper motor neurone.

The following diagnoses that affect the central nervous system may cause dorsiflexor weakness:

- Stroke
- Multiple sclerosis (MS)
- Incomplete spinal cord injury
- Traumatic brain injury

**Contraindications**
MyGait® may not be used in the following circumstances:
- by patients with a pacemaker, defibrillator or other electronic pulse generators
- in case of inflammation or tumours in or near the area to be stimulated
- in areas with a localised disorder such as a fracture or dislocation that would be adversely affected by stimulated movement.
MyGait® technology

The MyGait® stimulation system makes dorsiflexion of the ankle possible. During the swing phase of the gait cycle, it assumes the function of the motor-impaired central nervous system and gives the intact peripheral common peroneal nerve the signal to lift the foot. The signal is transmitted to the muscles responsible for foot lift. A whole series of technological steps that happen so fast that the user doesn’t even notice them, delivering a physiological gait.

This is how the foot is lifted

1. The sensor in the heel switch is activated when the foot is lifted.
2. The heel switch sends a wireless signal to the stimulator.
3. The stimulator sends electrical signals to the nerve via electrodes.
4. The foot is lifted.
The MyGait® system
At a glance

1. The stimulator is located in a cuff that holds the electrodes in position. The correct placement of the electrode is achieved by the cuff, which the user can easily don and doff with just one hand. They can choose from two different cuffs: in addition to the original, which can be applied to either leg, there is the cuff soft, a slimline version with left and right versions. The stimulator delivers the electrical stimulation to the common peroneal nerve. The nerve stimulates the muscles for controlled dorsiflexion of the foot during the swing phase. The stimulator has a second channel that offers additional control of joints for gait correction and rehabilitation.

2. The heel switch can be worn within a specially designed sock, so the patient is able to walk without shoes. The heel switch can be triggered on the ipsilateral or contralateral side, if weight-bearing through the affected leg is insufficient. The heel switch triggers on heel lift and ground contact, thus through swing and stance phase. It transmits the information to the stimulator wirelessly.

3. The adjustment tool enables qualified personnel to adjust the stimulation parameters to the user’s individual needs.

4. Using the wireless remote control, the user is able to access certain stimulator functions, e.g. when the user sits for an extended period, sleep mode can be activated.

Benefits

- **A choice of cuffs**
  Two systems with different advantages are available: the original can be applied to either leg, while the cuff soft is slimline with both left and right versions.

- **Built-in 2nd channel**
  Both single and two-channel capability for additional control is offered.

- **Sock / Wireless heel switch**
  The user’s gait can be analysed without shoes and is therefore ideal for therapy.

- **Test stimulation**
  The user is encouraged to test the system, and in doing so ensures that the MyGait® fits well and works perfectly from the very first step.
Cuff Original

- Can be applied to either leg
  Ideal for the assessment of new users (for clinic, rental and other testing purposes), therefore a flexible and cost-effective system.

- Robust and compact design
  Often easier to use for users with severe functional deficits in their upper limbs.

- Multi-use
  System can be used for several users because the plastic components of the cuff can be disinfected and the internal material lining can be washed or replaced.

Cuff Soft

- Straightforward
  • Magnetic clip easily secures the cuff.
  • Hook and loop closure: position sealing tape, then wrap around the leg and secure in final position.

- Light
  Slimline design and profile avoids adding bulk.

- Comfortable
  The cuff soft, designed for either left or right, in a breathable, soft material, offers high comfort and optimal fit.
Easily customised
For your patients

Setting the device
Individual adjustments can be applied and updated by a trained qualified clinician via the wireless software. Stimulation parameters that can be adjusted are pulse width and shape, frequency and stimulation timing during sub-phases of gait.

Second stimulation channel
MyGait® offers both single and two-channel capability for additional control. The second channel is integrated and does not need an additional device. By stimulating additional muscle groups, gait performance can be further improved. It can be employed to support during the swing as well as during the stance phase. The outcome will depend on the positioning: support in flexion or extension of the knee, improved triggering of the swing phase and minimised compensatory movements. [1-3]

Stimulation can be applied to the knee flexors, plantar and dorsiflexors.

“Some of the benefits of the MyGait® are that there are no wires to bother the user and that it is possible for them to climb stairs and walk on uneven ground. It also allows leg movement in the stance phase and the ankle is not restricted.”

Esther, physiotherapist and trainer for neurostimulation at the Ottobock Academy in Vienna
Walking faster, longer distances
Experiencing more!

Several studies have shown that FES can improve dorsiflexor weakness: [4-6]

- Lifting the foot at just the right moment
- Improving walking speed and pattern
- Making it possible to walk longer distances
- Walking requires less effort and concentration
- Mobility is increased
- Promotes confidence and security

User benefits:

- Two different cuffs to choose from
- Walking without shoes is possible, thanks to the sock
- Wireless heel switch
- Easy, single-handed application
- Wireless adjustment with remote control
- A second stimulation channel can be used to stimulate an additional set of muscles
- Easy to clean and many parts are replaceable or washable
- Self-adhesive hypoallergenic electrodes
- Can be customised in a variety of ways to suit individual needs
- Uncertainty in walking is reduced

„I regularly use the second channel as it allows me to target a second muscle group enabling my patients to achieve a much improved walking pattern – as with Justin.”

Tia, physiotherapist in UK
Mobilising your patients
What the research says

The aim of rehabilitation is to restore the greatest possible degree of independence to the user’s daily life. The earlier and more intensively mobilisation is introduced following stroke or other traumatic events, the better the results. [7-9]

In addition, many studies demonstrate that FES combined with conventional physio leads to further improved results, compared to conventional therapy alone [3, 10-12]. Walking ability significantly increases as a result of FES support, as do other parameters such as motor function, knee flexion and spasticity. [3, 9, 13, 14]

Clinical specialists appreciate the many benefits of MyGait®:

• Can be customised in a variety of ways to suit individual needs
• Duration and intensity control can be set for a number of training programmes. As well as timing mode (delay, rise and fall time) parameters, the intensity of individual sub-programmes can be controlled
• Wireless connection from the intuitive user tool helps to optimise the stimulation at the right time
• Triggering events can be both at heel lift as well as the heal strike
• Heel switch can be worn under either the affected or unaffected foot
• A second channel can be used to stimulate additional muscle groups
• Positive impact on joints, blood flow and muscle (counteracts atrophy from inactivity)
• Even benefits bedridden patients
• Highly compatible with neurophysiological treatment techniques
• Can also be used in small physiotherapy groups
• Independent application by the patient
We would be happy to provide more information

Fitting with MyGait® and training
Would you like to fit your patients with MyGait®?
Get MyGait® certification from Ottobock.
If you have any questions, please contact us at
Tel. +44 1784 744 900 · bockuk@ottobock.com.

Safety information:

MyGait® is a medical device provided with the CE mark in compliance with the directives 93/42/EEC and 1999/5/EC.

Functional Electrical Stimulation is not suitable for all patients with drop foot.

Please familiarise yourself with the product manuals and instructions, which contain information about treatment, contraindications, possible risks, side effects, special precautions and possible adverse events which.