

A practical everyday orthosis and a holistic gait training device in physiotherapy for adults and children

Dropped foot correction

The ODFS® Pace is a foot switch controlled neuromuscular stimulator designed to correct dropped foot in upper motor neurone conditions. Skin surface electrodes are placed, over the common peroneal nerve at the head of the fibula and the tibialis anterior. Stimulation produces dorsiflexion and eversion of the foot and may also produce a withdrawal reflex, adding knee and hip flexion. The rise and fall of the stimulation can be adjusted to prevent a sudden contraction that might induce a stretch reflex of the calf muscles. An extension to the stimulation can be added after heel strike, mimicking the natural activity of the anterior tibialis muscle, lowering the foot to the ground and stabilises the ankle in weight bearing.

Dorsiflexion and eversion in swing phase of gait produces:

- Improved ground clearance
- Reduced tripping and falls
- Reduced compensatory activity
- Reduced effort of walking
- Reduced spasticity
- Increased walking speed
- Heel strike with eversion
- Improved loading response
- Greater stability in stance
- Greater range of mobility
- Greater safety, confidence and independence while walking
- Long term therapeutic benefit
- Greater social interaction and improved quality of life



The ODFS® Pace's main application is as a long-term mobility aid. However the ODFS® Pace can also be used in gait re-education following stroke and spinal cord injury. Typical minimum ability to use the ODFS® Pace is to be able to stand from sitting unaided and walk 5-10m or more with appropriate aids or assistance from another person.

The ODFS® Pace in Gait Training

In addition to the correction of dropped foot the ODFS® Pace can be used in physiotherapy gait re-education sessions to train other aspects of gait. The device provides a series of easy to uses programs different aspects of gait.

- Gluteal and quadriceps muscles for weight transfer
- Gluteal and quadriceps muscles for walking
- Hamstring muscles to improve flexion
- Hamstring muscles to prevent hyperextensions
- Calf muscles for push off
- Triceps for improved arm swing

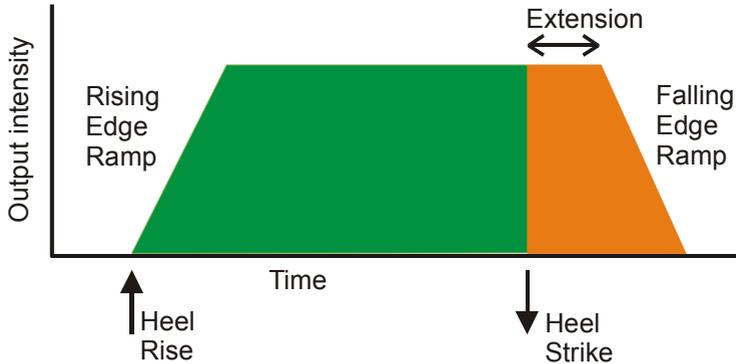
Each application can be fine-tuned to suit each individual's gait style. The device can be controlled using the footswitch or by therapist using the test switch.



ODFS® Pace Off



ODFS® Pace On



Features (v1.4)

Output: Asymmetrical or symmetrical biphasic voltage driven waveform.

Output amplitude: 10 to 100 mA

Frequency: 10 - 60 Hz. In 5 Hz steps

Pulse width: 0 to 365 μ s.

Output time: 0.3 to 6s in 100ms steps

Extension time: 0 to 2s in 50ms steps

Rising edge ramp time: 0 to 2s in 50ms steps

Falling edge ramp time: 0 to 2s in 50ms steps

Delay: 0 to 2s in 50ms steps

Flexible triggering: Heel rise or heel strike (foot switch on contralateral side)
 Adaptive, Fixed or No Time Out timing

Intelligent footswitch: The sensitivity adapts to the weight of the user.

Controls: Easy to use amplitude control, test and pause switches

Battery level indication

Usage log

Exercise mode

On time: 0 to 20 s in 0.5 s steps

Off time: 0 to 20 s in 0.5 s steps

Ramp time: 1 to 6 s in 0.5 s steps

Exercise timer: 5 to 100 minutes in 5 minute steps or no limit.

Battery: PP3, standard 9V alkaline or rechargeable battery

Battery life: Approximately 4 weeks of average use.

Weight (with battery): 112gm

Dimensions: 72 x 62 x 26 mm (excluding controls and belt clip)

Approvals: CE marked and recommended by NICE

The ODFS[®] Pace XL has the same parameters as the ODFS[®] Pace but can be controlled using a wireless footswitch connected by a LINQ transmitter.

ODFS® Pace for Exercise

The ODFS® pace can be configured as an exercise stimulator. Exercise stimulation can be used for:

- Strengthening of muscles prior to walking
- To accustom the user to the sensation of stimulation prior to walking
- Reduce calf tone prior to walking
- Training of other muscle groups separate to uses of the device for walking, for example upper limb exercises following stroke.

“ What our ODFS® Pace patients say

The stimulator has become a necessary part of me and makes my life a lot easier. I don't avoid walking now and I feel far more confident. I haven't fallen using the stimulator, so it's taken the fear of doing a lot of damage away. I'm now starting to widen my scope of activity quite dramatically. In fact, I think it is a fabulous improvement and I'm delighted with it.



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