brace ORTHOPAEDIC

unique orthopaedic devices

ExoBand®

Walk better, walk longer

ExoBand® Assistive Hip Orthosis

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Concept

The idea behind ExoBand was first formulated at Harvard and is the result of more than 10 years of research and development in biomechanics and robotics by Fausto Panizzolo, Ph.D.

Muscle weakness often results in gait abnormalities leading to reduced walking distance, increased fatigue and a high risk of falls. These symptoms can further reduce mobility, resulting in a vicious circle. Proximal muscle weakness can be particularly challenging to address through therapy and conventional orthoses, while sometimes the added weight of orthoses can exacerbate problems.

ExoBand helps people with impaired motor skills walk more efficiently and over longer distances. It is a wearable device consisting of a pelvic belt and two thigh cuffs. These three independent elements are connected to each other by a mechanism that stores the energy generated in the stance phase of the gait cycle to return it in the swing phase, thus enhancing the thrust of the hip flexor muscles and consequently leading to a functional improvement in walking.

ExoBand is both a functional aid to assist walking, as well as a rehabilitation tool to improve the quality of gait over time in suitable patients.

Indications

- Upper motor neuron conditions: multiple sclerosis (MS), cerebral palsy (CP), stroke, Parkinson's disease, incomplete spinal cord injuries, ataxias, etc.
- Lower motor neuron conditions: poliomyelitis, early stage management of Guillain-Barré syndrome (GBS) and other polyneuropathies, post-op nerve damage, etc.
- Neuromuscular diseases: polyneuropathies, muscular dystrophies, myopathies
- Early stages of motor neuron disease
- Conditions leading to chronic fatigue: post-Covid syndrome, myalgic encephalomyelitis (ME/ chronic fatigue syndrome), Ehlers-Danlos syndrome, etc.

Scientifically proven results

- Walk using less energy: reduction of metabolic cost and perceived effort
- Increase in walking distance and speed, improvement in gait kinematics
- Increase in dynamic stability
- Reduced risk of falls
- Improved balance while walking
- Enhancement of clinic- and home-based rehabilitation programmes

For references, please see back cover

Features

- Passive – relies on advanced elastomer technology to conserve and optimize energy use
- Usability – buckles can be operated single-handedly, simple adjustments, no tools required
- Lightweight (~400g) and comfortable, no bulky motors or batteries
- Can be used with walking aids and orthoses such as ankle-foot-orthoses (AFO's) to further increase their effectiveness
- Modular system allows clinicians to mix and match pelvic belts and thigh cuffs of different sizes for maximum adjustability
- Available in a range of different sizes for adults and children
- Scientifically tested

How to measure

❶ **Pelvic circumference**

Measured across the anterior superior iliac spines (ASIS)

❷ **Thigh circumference**

Measured two fingers above the top of the patella

Product codes

Thigh cuffs \ Pelvic Belt	XS Pelvic circumference 60 - 75 cm	S Pelvic circumference 75 - 87 cm	M Pelvic circumference 87 - 95 cm	L Pelvic circumference 95 - 125 cm	XL Pelvic circumference 125 - 140 cm
XS Thigh circumference 25 - 35 cm	EXOBAND-XS/XS	EXOBAND-S/XS	EXOBAND-M/XS	EXOBAND-L/XS	EXOBAND-XL/XS
S Thigh circumference 30 - 40 cm	EXOBAND-XS/S	EXOBAND-S/S	EXOBAND-M/S	EXOBAND-L/S	EXOBAND-XL/S
M Thigh circumference 40 - 50 cm	EXOBAND-XS/M	EXOBAND-S/M	EXOBAND-M/M	EXOBAND-L/M	EXOBAND-XL/M
L Thigh circumference 50 - 60 cm	EXOBAND-XS/L	EXOBAND-S/L	EXOBAND-M/L	EXOBAND-L/L	EXOBAND-XL/L
XL Thigh circumference 60 - 75 cm	EXOBAND-XS/XL	EXOBAND-S/XL	EXOBAND-M/XL	EXOBAND-L/XL	EXOBAND-XL/XL

- **Please note: XS parts come in red colour.**

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References

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More references are available on request.

ExoBand web page

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