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Benefits

The use of ExoBand in patients with walking impairments results in a longer distance covered, a higher walking speed, an improved adherence to a more natural walking pattern, and a decreased metabolic cost with a reduced sense of fatigue. In essence, patients can walk longer, faster and better.
In detail, several clinical studies have demonstrated the effectiveness of Exoband:

1) Walking with ExoBand leads to a reduction in metabolic cost in the elderly (−4.2 ± 1.9%) (1)
2) During a 5-week training study in patients with neurological diseases, the use of ExoBand resulted in an increase in walking capacity of ~15.5%, with a reduction in effort rate perceived by patients (2)
3) In patients with multiple sclerosis, walking with ExoBand results in a significant increase in distance traveled and a significant increase in dynamic stability (reduction of the overall extent of trunk movement) (3)
4) In neurological patients, physiotherapy sessions conducted with ExoBand induce a more pronounced improvement of walking speed compared to standard physiotherapy protocols (+14.3% vs +9.1%) (4)
5) In patients with neuromuscular diseases, the use of ExoBand leads to an increase in walking speed and distance covered, an increased stride width and an increased range of hip flexion-extension (5,6)

The benefits in terms of disability compensation are therefore:

1) Maintenance of muscle function and general physical wellbeing in patients with multiple sclerosis, movement disorders, stroke, neuromuscular disease or spinal cord injuries.
2) Reduction of energy expenditure, with less fatigue perceived by the patient, and a lower risk of falling.
3) Improvement of the results of individual physiotherapy treatments, allowing independent rehabilitation sessions at home
4) Greater participation in social life and work for patients

Indications

ExoBand can be efficiently used in patients with walking impairment due for example to:
- Neurodegenerative disorders: movement disorders (i.e. Parkinson disease), multiple sclerosis, ataxias
- Neuromuscular diseases: polyneuropathies, muscular dystrophies, myopathies
- Brain involvement: post- stroke, traumatic brain injury, neoplasm.
- Spinal cord injuries.

Clinical risks

The only possible risk is a partial or total lack of effectiveness of ExoBand, mainly for the following reasons:
- Patient and/or level of pathology poorly targeted: patient unable to walk or stand, with no extension phase, or without trunk control.
- Device installed incorrectly;

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A short period of familiarization is necessary for the PT/MD to identify the potential benefits of the device in each single patient, and for the single user to appreciate the proprioceptive changes deriving from the use of the device.

Side effects

No adverse effects associated with the use of the medical device were recorded during the clinical studies and in the post-marketing surveillance. Occasional recumbency, redness, paresthesia or tingling may occur if the medical device is misused.

Useful videos

Quick presentation of the device's functioning
Users videos
Scientific evidences
Italian key opinion leaders (with ENG subtitles)

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