













CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

Cristina Zamfirescu did the market research and wrote the paper, Adrian Olaru did the simulations in LabView, and the analysis of the obtained data, Cristina Mohora and Dana Tilina conducted the research, proofread the paper and contributed to the elaboration of the paper; all authors had approved the final version.

REFERENCES

- [1] Rehabilitation Equipment Market Size | Global Forecasts 2026. [Online]. Available: <https://www.grandviewresearch.com/industry-analysis/rehabilitation-products-market>
- [2] J. Mo and R. Priefer, "Medical devices for tremor suppression: Current status and future directions," *Biosensors*, vol. 11, no. 4, Apr. 2021.
- [3] T. M. Nardi *et al.*, "Low-noise amplifier for deep-brain stimulation (DBS)," *Electron.* 2022, vol. 11, no. 6, p. 939, Mar. 2022.
- [4] M. Shamroukh, A. Chacko, V. Kalaichelvi, I. Q. Kalimullah, S. S. Barlingay, and A. B. Chattopadhyay, "Evaluation of control strategies in semi-active orthosis for suppression of upper limb pathological tremors," in *Proc. IEEE Int. Conf. Innov. Electr. Electron. Instrum. Media Technol. ICIEEIMT 2017*, no. 978, pp. 75–80, 2017.
- [5] N. P. Fromme, M. Camenzind, R. Riener, and R. M. Rossi, "Need for mechanically and ergonomically enhanced tremor-suppression orthoses for the upper limb: A systematic review," *J. Neuroeng. Rehabil.*, vol. 16, no. 1, 2019.
- [6] N. P. Fromme, M. Camenzind, R. Riener, and R. M. Rossi, "Design of a lightweight passive orthosis for tremor suppression," *J. Neuroeng. Rehabil.*, vol. 17, no. 1, pp. 1–16, 2020.
- [7] H. S. Nguyen and T. P. Luu, "Tremor-suppression orthoses for the upper limb: Current developments and future challenges," *Frontiers in Human Neuroscience*, vol. 15, 2021.
- [8] "Lifeware: Self-stabilizing Eating Utensils for Individuals with Hand Tremor," 2015.
- [9] Patients with Tremor Benefit from NINDS-funded 'Smart Spoon' NINDS blogs. [Online]. Available: <https://blog.ninds.nih.gov/2015/02/24/patients-with-tremor-benefit-from-ninds-funded-smart-spoon/>
- [10] Home - handSteady. [Online]. Available: <https://handsteady.com/en/>
- [11] Adaptive Food Bumper for Dinner Plates - elderstore.com. [Online]. Available: <https://www.elderstore.com/stainless-steel-plate-guard.aspx>
- [12] H. Cianci, L. Cloete, J. Gardner, M. Trail, and R. Wichmann, "Activities of daily living: Practical pointers for parkinson disease," pp. 9–35, 2006.
- [13] Freedom Scoop Plate | ADL products for Seniors, the Elderly & People with Disabilities. [Online]. Available: <https://www.freedom-distributors.com/products/freedom-dinnerware/freedom-scoop-plate/>
- [14] Sandwich Holder Eating Utensil Clamp for the Disabled. [Online]. Available: [https://www.rehabmart.com/product/sandwich-holder1-9856.html?fbclid=IwAR2ND9OiAyj4e-Zz2Q\\_fkhuNA2MK-ozWqfLGGcvj\\_4Mz08IdHvt8pRanvs0](https://www.rehabmart.com/product/sandwich-holder1-9856.html?fbclid=IwAR2ND9OiAyj4e-Zz2Q_fkhuNA2MK-ozWqfLGGcvj_4Mz08IdHvt8pRanvs0)
- [15] Step walker. [Online]. Available: <https://www.ustep.com/wp-content/uploads/2018/06/ustep2br2.pdf>
- [16] A Pakistani Entrepreneur devises a novel walking aid to treat the Parkinson's Freeze Muslim Science. [Online]. Available: <http://muslim-science.com/a-pakistani-entrepreneur-devises-a-novel-walking-aid-to-treat-the-parkinsons-freeze/>
- [17] C. Barthel *et al.*, "The laser shoes," *Neurology*, vol. 90, no. 2, pp. e164–e171, 2018.
- [18] Shoe-mounted laser to 'unfreeze' people with Parkinson's scoops €1 million prize | Research and Innovation. [Online]. Available: <https://ec.europa.eu/research-and-innovation/en/horizon-magazine/shoe-mounted-laser-unfreeze-people-parkinsons-scoops-eu1-million-prize>
- [19] N. Jain, "Self stabilising utensil for patients," vol. 6, no. 2, pp. 128–134, 2021.
- [20] J. Kim, T. Wichmann, O. T. Inan, and S. P. Deweerth, "A wearable system for attenuating essential tremor based on peripheral nerve stimulation," *IEEE J. Transl. Eng. Heal. Med.*, vol. 8, no. April, 2020.

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