

Over the past years Movendo Technology completed a great number of clinical studies covering the main areas of orthopedics, neurology, geriatrics and sports, thanks to the collaboration with our clinical partners worldwide.

## Papers

(journal and international conference proceedings - peer reviewed)

**2022** Marchesi G, De Luca A, Squeri V, De Michieli L, Vallone F, Pilotto A, Leo A, Casadio M and Canessa A (2022) **"A Lifespan Approach to Balance in Static and Dynamic Conditions: The Effect of Age on Balance Abilities."** Front. Neurol. 13:801142. doi: 10.3389/fneur.2022.801142

Maggio M.G., Naro A., Calatozzo P., Rosa G., Porcari B., Latella D., Marzullo P., Calabrò R.S. **"Rehabilitation of somatoparaphrenia with misoplegia: insights from a single case-pilot study"** J Integr Neurosci. 2021 Jun 30;20(2):439-447. doi: 10.31083/j.jin2002046. PMID: 34258945.

Calabrò R.S., Billeri L., Ciappina F., Balletta T., Porcari B., Cannavò A., Pignolo L., Manuli A., Naro A. **"Toward improving functional recovery in spinal cord injury using robotics: a pilot study focusing on ankle rehabilitation."** Expert Rev Med Devices. 2021 Mar 5:1-13. doi: 10.1080/17434440.2021.1894125. Epub ahead of print. PMID: 33616471.

**2021** Spina S., Facciorusso S., Cinone N., Armiento R., Picelli A., Avvantaggiato C., Ciritella C., Fiore P., Santamato A. **"Effectiveness of robotic balance training on postural instability in patients with mild Parkinson's disease: A pilot, single blind, randomized controlled trial."** J Rehabil Med. 2021 Feb 17;53(2):jrm00154. doi: 10.2340/16501977-2793. PMID: 33585943.

Gervasoni F., Lo Mauro A., Ricci V., Salce G., Andreoli A., Visconti A., Pantoni L. **"Balance and visual reliance in post-COVID syndrome patients assessed with a robotic system: a multi-sensory integration deficit."** Neurol Sci. 2021 Oct 6:1-4. doi: 10.1007/s10072-021-05647-8. Epub ahead of print. PMID: 34613505; PMCID: PMC8493357.

Pilkar R., Veerubhotla A., Ehrenberg N. **"Objective evaluation of the risk of falls in individuals with traumatic brain injury: feasibility and preliminary validation."** Annu Int Conf IEEE Eng Med Biol Soc. 2021 Nov;2021:4658-4661. doi: 10.1109/EMBC46164.2021.9630020. PMID: 34892252.

Marchesi G., Ricaldone E., De Luca A., Torre K., Quinland E., Bellitto A., Squeri V., Massone A., Casadio M. Canessa A., **"A robot based assessment of trunk control in Spinal Cord Injured athletes"**, (2020) 8th IEEE RAS/EMBS International Conference for Biomedical Robotics and Biomechatronics (BioRob), New York City, NY, USA, 2020, pp. 497-502, doi: 10.1109/BioRob49111.2020.9224337

**2020** Cella A, De Luca A., Squeri V., Parodi S., Vallone F., Giorgeschi A., Senesi B., Zigoura E., Guerrero K., De Michieli L., Saglia J.A., Sanfilippo C., Pilotto A. (2020) **"Development and validation of a robotic multifactorial fall-risk predictive model: a one-year prospective study in community-dwelling older adults"** PLoS ONE 15(6): e0234904. <https://doi.org/10.1371/journal.pone.0234904>

De Luca A., Squeri V., Barone L., Verneti H., Ricci S., Pisu I., Cassiano C., Capra C., Lentino C., De Michieli L., Sanfilippo C., Saglia J.A., Checchia G. (2020) **"Dynamic Stability and Trunk Control Improvements Following Robotic Balance and Core Stability Training in Chronic Stroke Survivors: A Pilot Study."** Front. Neurol. 11:494. doi: 10.3389/fneur.2020.00494

Cella A., De Luca A., Squeri V., Parodi S., Puntoni M., Vallone F., Giorgeschi A., Garofalo V., Zigoura E., Senesi B., De Michieli L., Saglia J.A., Sanfilippo C., Pilotto A. (2019) **"Robotic Balance Assessment in Community-Dwelling Older People with Different Grades of Impairment of Physical Performance."** Aging Clinical and Experimental Research.

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Saglia J. A., De Luca A., Squeri V., Ciaccia L., Sanfilippo C., Ungaro S., De Michieli L. (2019) **"Design and Development of a Novel Core, Balance and Lower Limb Rehabilitation Robot: Hunova®."** Pp. 417–22 in 2019 IEEE 16th International Conference on Rehabilitation Robotics (ICORR).

## Conferences

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**2021** Veerubhotla A., Ehrenberg N., Ibironke O., Pilkar R. **"Objective Evaluation of Risk of Falls in Individuals with Chronic Stroke: Feasibility Study."** Archives of Physical Medicine and Rehabilitation 2021, Volume 102, Issue 10, Page e101. ISSN 0003-9993.

De Luca A., Cella A., Squeri V., Vallone F., Pilotto A. **"Silver Index: a new tool to predict and treat the risk of falls in elderly subjects."** 36ème congrès de la Société Française de Médecine Physique et Réadaptation, 14 - 16 octobre 2021, Lille, France.

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**2020** Marchesi G., Pinna G., Bellitto A., Canessa A., De Luca A., Saglia J.A., Sanfilippo C., Squeri V., Casadio M. **"A robot-based evaluate on of the volitional component of pelvis and trunk control."** ISEK XXIII Virtual congress (July 12-14, 2020).

Marchesi, G., Bellitto, A., Ricaldone, E., De Luca, A., Sanfilippo, C., Torre, K., Quinland, E., Saglia, J., Squeri, V., Massone, A. and Casadio, M., 2020, October. **"Evaluation of Balance Abilities in Expert Paralympic Athletes with Lower Limb Amputation."** In International Conference on NeuroRehabilitation (pp. 213-217). Springer, Cham.

**2019** Marchesi G., Canessa A., De Luca A., De Michieli L., Pilotto A., Vallone F., Cella A., Spinelli M., Leo A., Sanfilippo C., Squeri V., Saglia J.A., Casadio M. **"Robot-based static and dynamic balance assessments for planning age-tailored training protocol."** 49th Annual Meeting of the Society for Neuroscience (Chicago, October 19-23, 2019).

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Taglione E., Graziano A., D'Angelo M.L., Squeri V., D'Angelo F., De Marco E., Filippetti R., Pasqualetti F., Rapalli A., Saglia J.A., Sanfilippo C., Laffranchi M., Catitti P., De Michieli L. **"Valutazione posturale dinamica e training propriocettivo con il robot hunova: risultati preliminari di uno studio RCT in pazienti con deficit deambulatorio a seguito di lesioni traumatiche."** XLVI Congresso Nazionale SIMFER, Ancona 20-23 settembre 2018.

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Leo A., Zarbo M., Cassinis A., Pometto D., Re L., Bianconi T., Gambirasio C., Spinelli M. **"The use of the robotic device Hunova® as a rehabilitation tool for functional balance in individuals with Spinal Cord Injury."** The 57th ISCoS Annual Meeting, Sydney 13-15 Semptheber 2018.

Squeri V., De Luca A., Vallone F., Cella A., Siri G., Zigoura E., Giorgeschi A., Tavella E., Puntoni M., Avella M., Garofalo V., Aguzzoli P., De Michieli L., Saglia J.A., Sanfilippo C., Pilotto A. **"Robotic evaluation of fall risk in older people: results on trunk parameters in static and dynamic balance conditions by hunova robot."** 12TH ISPRM WORLD CONGRESS – ISPRM 2018 (08 - 12 July 2018, Paris).

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Taglione E. , De Marco E. , Pasqualetti F. , Rapalli A. , Squeri V. , Masia L. , Caldwell DG. , Catitti P. , Saglia J.A. **"Ankle rehabilitation using the high-performance robotic device IIT-ARBOT: study protocol and preliminary results."** 9th World Congress of the International Society of Physical and Rehabilitation Medicine, vol. J Rehabil Med 2015, (no. Suppl 54), (19–23 June 2015, Berlin)

2018

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2016

2015