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Date	Product Used	Indication	Title	Author	Journal	Link to Abstract or Full Text
2026	Yes	MS	Translingual neural stimulation to improve gait and balance in multiple sclerosis: A randomized controlled trial	Donkers, et al.	Archies of Physical Medicine and Rehabilitation	https://pubmed.ncbi.nlm.nih.gov/42150723/ Full Text: shohttps://www.archives-pmr.org/action/showPdf?pii=S0003-9993%2826%2900706-9wPdf
2025	Yes	MS	Long-Term Efficacy of Translingual Neurostimulation by a Portable Neuromodulation Stimulator on Gait Deficit Improvement in Multiple Sclerosis: Results From the PoNSTEP Study	Backus, et al.	Presented at CMSC 2025	https://abstracts.ijmsc.org/cmsc2025/abstract_guide.pdf
2025	Yes	TBI	Translingual neural stimulation induced changes in intra- and inter- network functional connectivity in mild- moderate traumatic brain injury patients	Chu, D., et al.	Frontiers in Human Neuroscience	https://pubmed.ncbi.nlm.nih.gov/39925723/ Full Text: https://pmc.ncbi.nlm.nih.gov/articles/PMC11802553/
2025	Yes	Posterior Cortical Atrophy (PCA)-Case Study	Improvement in gait and functional abilities in an adult with posterior cortical atrophy after translingual neuromodulation with neurorehabilitation physical therapy: a case report	Webeck, J., et al.	Physiotherapy Theory and Practice	https://pubmed.ncbi.nlm.nih.gov/39922688/
2023	Yes	MS	Translingual neurostimulation combined with physical therapy to improve walking and balance in multiple sclerosis (NeuroMSTraLS): Study protocol for a randomized controlled trial	Ploughman, M., et al	Contemporary Clinical Trials	https://pubmed.ncbi.nlm.nih.gov/36878390/ Full Text: https://www.sciencedirect.com/science/article/pii/S1551714423000654?via%3Dihub

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2023	Yes	Cognitive rehab and attention	Real world evidence of improved attention and cognition during physical therapy paired with neuromodulation: a brain vital signs study	Kirby, E., et al.	Frontiers in Human Neuroscience	https://pubmed.ncbi.nlm.nih.gov/37362950/ Full Text: https://pmc.ncbi.nlm.nih.gov/articles/PMC10289164/
2022	Yes	TBI	Translingual neural stimulation affects resting-state functional connectivity in mild-moderate traumatic brain injury	Hou, J., et al.	Journal of Neuroimaging	https://pubmed.ncbi.nlm.nih.gov/35906713/ Full Text: https://pmc.ncbi.nlm.nih.gov/articles/PMC9649856/
2022	Yes	Across Neurological Diagnoses	Translingual neural stimulation in adults with neurological conditions: a scoping review	Boughen, K. et al.	Journal of Rehabilitation Research and Practice	Full Text: https://www.probiologists.com/public/assets/articles/article-pdf-1734171401-250.pdf
2022	Yes	Angelman Syndrome (Case study)	Improvement in Gait and Participation in a Child with Angelman Syndrome after Translingual Neurostimulation Associated with Goal-Oriented Therapy: A Case Report	Gaudin-Drouelle, D., et al.	Children (Basel, Switzerland)	https://pubmed.ncbi.nlm.nih.gov/35626896/ Full Text: https://pmc.ncbi.nlm.nih.gov/articles/PMC9139481/
2021	Yes	Across Neurologic Conditions	Cranial Nerve Noninvasive Neuromodulation in Adults With Neurological Conditions: Protocol for a Scoping Review	Boughen, K,. et al.	JMIR Research Protocols	https://pubmed.ncbi.nlm.nih.gov/34319251/ Full Text: https://pmc.ncbi.nlm.nih.gov/articles/PMC8367107/

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2021	Yes	TBI (RCT)	A Prospective, Multicenter Study to Assess the Safety and Efficacy of Translingual Neurostimulation Plus Physical Therapy for the Treatment of a Chronic Balance Deficit Due to Mild-to-Moderate Traumatic Brain Injury	Ptito, A., et al.	Neuromodulation	https://pubmed.ncbi.nlm.nih.gov/32347591/ Full Text: https://pmc.ncbi.nlm.nih.gov/articles/PMC9291157/
2020	Yes	Across Neurologic Diagnoses	A Review of the Evidence and Current Applications of Portable Translingual Neurostimulation Technology	Diep, D., et al.	Journal of the Neuromodulation Society	https://pubmed.ncbi.nlm.nih.gov/32881193/
2020	Yes	TBI	Translingual Neural Stimulation With the Portable Neuromodulation Stimulator (PoNS) Induces Structural Changes Leading to Functional Recovery in Patients with Mild-To-Moderate Traumatic Brain Injury	Hou, J., et al.	EMJ Radiology	Full Text: https://www.researchgate.net/publication/344218358_Translingual_Neural_Stimulation_With_the_Portable_Neuromodulation_Stimulator_PoNSR_Induces_Structural_Changes_Leading_to_Functional_Recovery_In_Patients_With_Mild-To-Moderate_Traumatic_Brain_Injury
2020	Yes	TBI (Case study)	Brain Vital Signs Detect Cognitive Improvements During Combined Physical Therapy and Neuromodulation in Rehabilitation From Severe Traumatic Brain Injury: A Case Report	Fickling, S., et al.	Frontiers in Human Neuroscience	https://pubmed.ncbi.nlm.nih.gov/33132868/ Full Text: https://pmc.ncbi.nlm.nih.gov/articles/PMC7513585/
2020	Yes	TBI (Case study)	Portable neuromodulation induces neuroplasticity to re-activate motor function recovery from brain injury: a high-density MEG case study	D'Arcy, R.C, et al.	Journal of Neuroengineering and Rehabilitation	https://pubmed.ncbi.nlm.nih.gov/33261623/ Full Text: https://pmc.ncbi.nlm.nih.gov/articles/PMC7708191/

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2020	Yes	Cognitive rehab	Brain Vital Signs Detect Information Processing Differences When Neuromodulation Is Used During Cognitive Skills Training	Smith, C., et al.	Frontiers in Human Neuroscience	https://pubmed.ncbi.nlm.nih.gov/33117138/ Full Text: https://pmc.ncbi.nlm.nih.gov/articles/PMC7521129/
2020	Yes	Stroke	Translingual Neurostimulation For Peripheral Motor Control Recovery Post In-Patient Stroke Rehabilitation: A Focus Article	Monaghan, K and Lynch, P.	Alzheimer's & Neurodegenerative Diseases	Full Text: https://www.researchgate.net/publication/342184615_Translingual_Neurostimulation_For_Peripheral_Motor_Control_Recovery_Post_In-Patient_Stroke_Rehabilitation_A_Focus_Article
2019	Yes	TBI	Translingual Neurostimulation for the Treatment of Chronic Symptoms Due to Mild-to-Moderate Traumatic Brain Injury	Tyler, M., et al.	Archives of Rehabilitation Research and Clinical Translation	https://pubmed.ncbi.nlm.nih.gov/33543056/ Full Text: https://pmc.ncbi.nlm.nih.gov/articles/PMC7853385/
2019	Yes	Mechanism of action	Human translingual neurostimulation alters resting brain activity in high-density EEG	Frehlick, Z., et al.	Journal of Neuroengineering Rehabilitation	https://pubmed.ncbi.nlm.nih.gov/31133021/ Full Text: https://pmc.ncbi.nlm.nih.gov/articles/PMC6537158/
2019	Yes	Cerebral Palsy (spastic diplegia)	Effectiveness evaluation of translingual neurostimulation in motor rehabilitation in children with spastic diplegia	Ignatova, T.S., et al.	Neurostimulation	Full text: https://www.researchgate.net/publication/334401128_Effectiveness_evaluation_of_translingual_neurostimulation_in_motor_rehabilitation_in_children_with_spastic_diplegia

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2018	Yes	TBI	Translingual Neurostimulation (TLNS): Perspective on a Novel Approach to Neurorehabilitation after Brain Injury	Danilov, Y., et al	Pre-Clinical and Clinical Methods in Brain Trauma Research	https://link.springer.com/protocol/10.1007/978-1-4939-8564-7_19
2018	Yes	Cerebral Palsy	Translingual Neurostimulation in Treatment of Children with Cerebral Palsy in the Lake Residual Stage (case study)	Ignatova, T.S., et al.	Neurostimulation	Full Text: https://www.researchgate.net/publication/322873197_Translingual_Neurostimulation_in_Treatment_of_Children_with_Cerebral_Palsy_in_the_Late_Residual_Stage_Case_Study
2018	Yes	Brain Injury resultant from tumor surgical resection	A novel neuromodulation technique for the rehabilitation of balance and gait: A case study	Cofre-Lizama, E. et al.	Journal of Clinical Neuroscience	https://www.jocn-journal.com/article/S0967-5868%2818%2930662-3/abstract
2018	Yes	Cerebellar Ataxia	The combined effect of cranial-nerve non-invasive neuromodulation with high-intensity physiotherapy on gait and balance in a patient with cerebellar degeneration: a case report	Bastani, A., et al.	Cerebellum & Ataxias	Full Text: https://www.researchgate.net/publication/323566275_The_combined_effect_of_cranial-nerve_non-invasive_neuromodulation_with_high-intensity_physiotherapy_on_gait_and_balance_in_a_patient_with_cerebellar_degeneration_a_case_report
2017	Yes	Safety, efficacy	Translingual Neurostimulation (TLNS): A Novel Approach to Neurorehabilitation	Danilov, Y. et al.	Physical Medicine and Rehabilitation International	Full Text: https://marcasso.org/wp-content/uploads/2024/01/2017-Translingual-Neurostimulation-TLNS-A-Novel-Approach-to-Neurorehabilitation.pdf

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2017	Yes	Technical Parameters of PoNS Stimulation	The Portable Neuromodulation Stimulator (PoNS) for Neurorehabilitation	Kaczmarek, K.A.	Scientia Iranica	Full Text: https://www.researchgate.net/publication/321174000_The_Portable_Neuromodulation_Stimulator_PoNS_for_Neurorehabilitation
2017	Yes	Multiple Sclerosis	Non-invasive tongue stimulation combined with intensive cognitive and physical rehabilitation induces neuroplastic changes in patients with multiple sclerosis: A multimodal neuroimaging study	Leonard, G., et al.	Multiple Sclerosis Journal: Experimental, Translational and Clinical	Full Text: https://www.researchgate.net/publication/315449269_Noninvasive_tongue_stimulation_combined_with_intensive_cognitive_and_physical_rehabilitation_induces_neuroplastic_changes_in_patients_with_multiple_sclerosis_A_multimodal_neuroimaging_study
2017	Yes	Stroke	Cranial nerve non-invasive neuromodulation improves gait and balance in stroke survivors: A pilot randomized controlled trial	Galea, M., et al.	Annals of Physical and Rehabilitation Medicine	https://www.researchgate.net/publication/326407406_Cranial_nerve_non-invasive_neuromodulation_improves_gait_and_balance_in_stroke_survivors_A_pilot_randomised_controlled_trial
2017	Yes	Cognitive functioning in Chronic Stroke	Cognitive enhancement exciting discovery using trans-lingual neuro-stimulation	Paltin, D., et al.	Case Report-Neurology and Neurorehabilitation Research	Full Text: https://www.researchgate.net/publication/316858582_Cognitive_Enhancement_Exciting_Discovery_Using_Trans-Lingual_Neuro-Stimulation
2014	Yes	Multiple Sclerosis	Non-invasive neuromodulation to improve gait in chronic multiple sclerosis: a randomized double blind controlled pilot trial	Tyler, M.E., et al.	Journal of Neuro Engineering and Rehabilitation	Full Text: https://www.researchgate.net/publication/262776802_Non-invasive_neuromodulation_to_improve_gait_in_chronic_multiple_sclerosis_A_randomized_double_blind_controlled_pilot_trial

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2014	Yes	Across neurological diagnoses	Systematic Review and Meta-Analysis of Noninvasive Cranial Nerve Neuromodulation for Nervous System Disorders	Papa, L., et al.	Archives of Physical Medicine and Rehabilitation	https://www.researchgate.net/publication/262231008_Systematic_Review_and_Meta-Analysis_of_Noninvasive_Cranial_Nerve_Neuromodulation_for_Nervous_System_Disorders
2014	Yes	TLNS emerging technology	Emerging Noninvasive Neurostimulation Technologies: CN-NINM and SYMPATOCORECTION	Danilov, Y., et al.	Journal of Behavioral and Brain Science	Full Text: https://www.researchgate.net/publication/272671185_Emerging_Noninvasive_Neurostimulation_Technologies_CN-NINM_and_SYMPATOCORECTION
2014	Yes	Spinal Cord Injury	Feasibility of sensory tongue stimulation combined with task-specific therapy in people with spinal cord injury: A case	Chisholm, A. et al.	Journal of Neuro Engineering and	Full Text: https://www.researchgate.net/publication/262929251_Feasibility_of_sensory_tongue_stimulation_
2011	Yes	Mechanism of Action	High-resolution fMRI detects neuromodulation of individual brainstem nuclei by electrical tongue stimulation in balance-impaired individuals	Wildenberg, J.C., et al.	Neuroimage	Full Text: https://www.researchgate.net/publication/51054469_High-resolution_fMRI_detects_neuromodulation_of_individual_brainstem_nuclei_by_electrical_tongue_stimulation_in_balance-impaired_individuals
2011	Yes	Technical Parameters of PoNS Stimulation	The tongue display unit (TDU) for electrotactile spatiotemporal pattern presentation	Kaczmarek, K.A.	Scientia Iranica	Full Text: https://www.researchgate.net/publication/277493216_The_tongue_display_unit_TDU_for_electrotactile_spatiotemporal_pattern_presentation
2010	Yes	Mechanism of Action	Sustained cortical and subcortical neuromodulation induced by electrical tongue stimulation	Wildenberg, J.C., et al.	Brain Imaging and Behavior	Full Text: https://www.researchgate.net/publication/45102685_Sustained_cortical_and_subcortical_neuromodulation_induced_by_electrical_tongue_stimulation

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