

The influence of functional electrical stimulation on hand patients: a review

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Citation Report

#	ARTICLE	IF	CITATIONS
1	Reducing Current Spread by Use of a Novel Pulse Shape for Electrical Stimulation of the Auditory Nerve. Trends in Hearing, 2015, 19, 233121651561976.	0.7	14
2	Dose-response relationships using brain-computer interface technology impact stroke rehabilitation. Frontiers in Human Neuroscience, 2015, 9, 361.	1.0	33
3	Effects of combining robot-assisted therapy with neuromuscular electrical stimulation on motor impairment, motor and daily function, and quality of life in patients with chronic stroke: a double-blinded randomized controlled trial. Journal of NeuroEngineering and Rehabilitation, 2015, 12, 96.	2.4	42
4	A cooperative remote rehabilitation system. , 2015, , .		1
5	Brain computer interface prototypes for upper limb rehabilitation: A review of principles and experimental results. , 2015, , .		2
6	Sites of electrical stimulation used in neurology. Annals of Physical and Rehabilitation Medicine, 2015, 58, 201-207.	1.1	5
7	fNIRS-based analysis of brain activation with knee extension induced by functional electrical stimulation. IFMBE Proceedings, 2015, , 1137-1141.	0.2	0
8	Rehabilitation of Motor Function after Stroke: A Multiple Systematic Review Focused on Techniques to Stimulate Upper Extremity Recovery. Frontiers in Human Neuroscience, 2016, 10, 442.	1.0	558
9	Tolerability of Repeated Application of Transcranial Electrical Stimulation with Limited Outputs to Healthy Subjects. Brain Stimulation, 2016, 9, 740-754.	0.7	38
11	Flexible multichannel-stimulator for motor neuroprosthesis in vivo by remotely driven in vitro. Nano Energy, 2016, 30, 146-154.	8.2	8
12	Brain-computer interfaces in the completely locked-in state and chronic stroke. Progress in Brain Research, 2016, 228, 131-161.	0.9	41
13	Feedback control of electrical stimulation electrode arrays. Medical Engineering and Physics, 2016, 38, 1185-1194.	0.8	8
14	Clinical applications of penetrating neural interfaces and Utah Electrode Array technologies. Journal of Neural Engineering, 2016, 13, 061003.	1.8	101
15	Smart control for functional electrical stimulation with optimal pulse intensity. Current Directions in Biomedical Engineering, 2016, 2, 395-398.	0.2	2
16	A flexible standalone system with integrated sensor feedback for multi-pad electrode FES of the hand. Current Directions in Biomedical Engineering, 2016, 2, 391-394.	0.2	6
17	Multi-contact functional electrical stimulation for hand opening: electrophysiologically driven identification of the optimal stimulation site. Journal of NeuroEngineering and Rehabilitation, 2016, 13, 22.	2.4	33
18	Neuro-fuzzy models for hand movements induced by functional electrical stimulation in able-bodied and hemiplegic subjects. Medical Engineering and Physics, 2016, 38, 1214-1222.	0.8	7
19	Non-Invasive Stimulation-Based Tactile Sensation for Upper-Extremity Prosthesis: A Review. IEEE Sensors Journal, 2017, 17, 2625-2635.	2.4	53

#	ARTICLE	IF	CITATIONS
20	After-effects of peripheral neurostimulation on brain plasticity and ankle function in chronic stroke: The role of afferents recruited. <i>Neurophysiologie Clinique</i> , 2017, 47, 275-291.	1.0	27
21	Note: Hybrid-Ĥ model and parameter extraction method for electrode-electrolyte interface characterization with superbly accurate reactance. <i>Review of Scientific Instruments</i> , 2017, 88, 086106.	0.6	1
22	Exploration of Hand Grasp Patterns Elicitable Through Non-Invasive Proximal Nerve Stimulation. <i>Scientific Reports</i> , 2017, 7, 16595.	1.6	21
23	Optogenetically stimulating intact rat corticospinal tract post-stroke restores motor control through regionalized functional circuit formation. <i>Nature Communications</i> , 2017, 8, 1187.	5.8	62
24	Arm rehabilitation in post stroke subjects: A randomized controlled trial on the efficacy of myoelectrically driven FES applied in a task-oriented approach. <i>PLoS ONE</i> , 2017, 12, e0188642.	1.1	35
25	A review: Motor rehabilitation after stroke with control based on human intent. <i>Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine</i> , 2018, 232, 344-360.	1.0	49
26	Combined Brain and Peripheral Nerve Stimulation in Chronic Stroke Patients With Moderate to Severe Motor Impairment. <i>Neuromodulation</i> , 2018, 21, 176-183.	0.4	24
27	Pilot Study Combining Electrical Stimulation and a Dynamic Hand Orthosis for Functional Recovery in Chronic Stroke. <i>American Journal of Occupational Therapy</i> , 2018, 72, 7202345030p1-7202345030p6.	0.1	5
28	Evaluation of Motor-Assisted Gloves (SEM Glove) for Patients with Functional Finger Disorders: A Clinical Pilot Study. <i>Kurume Medical Journal</i> , 2018, 65, 63-70.	0.0	3
29	Variation of Finger Activation Patterns Post-stroke Through Non-invasive Nerve Stimulation. <i>Frontiers in Neurology</i> , 2018, 9, 1101.	1.1	12
30	Crosstalk Removal in Stimulus-evoked Forearm Electromyography. <i>IFAC-PapersOnLine</i> , 2018, 51, 315-320.	0.5	1
31	Flexibility of Finger Activation Patterns Elicited through Non-invasive Multi-Electrode Nerve Stimulation. , 2018, 2018, 1428-1431.		6
32	Increased Corticomuscular Coherence and Brain Activation Immediately After Short-Term Neuromuscular Electrical Stimulation. <i>Frontiers in Neurology</i> , 2018, 9, 886.	1.1	7
33	High Classification Accuracy of a Motor Imagery Based Brain-Computer Interface for Stroke Rehabilitation Training. <i>Frontiers in Robotics and AI</i> , 2018, 5, 130.	2.0	43
34	Functional electrical stimulation to improve upper limb function in a child with an acquired brain injury. <i>International Journal of Therapy and Rehabilitation</i> , 2018, 25, 437-446.	0.1	1
35	Neurorehabilitation therapy of patients with severe stroke based on functional electrical stimulation commanded by a brain computer interface. <i>Journal of Rehabilitation and Assistive Technologies Engineering</i> , 2018, 5, 205566831878928.	0.6	29
36	Delayed fatigue in finger flexion forces through transcutaneous nerve stimulation. <i>Journal of Neural Engineering</i> , 2018, 15, 066005.	1.8	9
37	The use of functional electrical stimulation to improve upper limb function in children with hemiplegic cerebral palsy: A feasibility study. <i>Journal of Rehabilitation and Assistive Technologies Engineering</i> , 2018, 5, 205566831876840.	0.6	10

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38	sEMG Signal Acquisition Strategy towards Hand FES Control. Journal of Healthcare Engineering, 2018, 2018, 1-11.	1.1	9
39	Brain-machine interfaces for rehabilitation in stroke: A review. NeuroRehabilitation, 2018, 43, 77-97.	0.5	87
40	sEMG Bias-Driven Functional Electrical Stimulation System for Upper-Limb Stroke Rehabilitation. IEEE Sensors Journal, 2018, 18, 6812-6821.	2.4	47
41	Mobile Game Induces Active Engagement on Neuromuscular Electrical Stimulation Training in Patients with Stroke. Cyberpsychology, Behavior, and Social Networking, 2018, 21, 504-510.	2.1	4
42	Upper Limb Orthoses for the Stroke- and Brain-Injured Patient. , 2019, , 146-156.e2.		1
43	Achieving Neural Compatibility With Human Sensorimotor Control in Prosthetic and Therapeutic Devices. IEEE Transactions on Medical Robotics and Bionics, 2019, 1, 122-134.	2.1	16
44	Neurotechnology-aided interventions for upper limb motor rehabilitation in severe chronic stroke. Brain, 2019, 142, 2182-2197.	3.7	138
45	Multichannel Nerve Stimulation for Diverse Activation of Finger Flexors. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2019, 27, 2361-2368.	2.7	7
46	Current Change Rate Influences Sensorimotor Cortical Excitability During Neuromuscular Electrical Stimulation. Frontiers in Human Neuroscience, 2019, 13, 152.	1.0	6
47	Development of a training paradigm for voluntary control of the peri-auricular muscles: a feasibility study. Journal of NeuroEngineering and Rehabilitation, 2019, 16, 75.	2.4	0
48	Comparison of muscle synergies extracted from both legs during cycling at different mechanical conditions. Australasian Physical and Engineering Sciences in Medicine, 2019, 42, 827-838.	1.4	10
49	Soft Conducting Elastomer for Peripheral Nerve Interface. Advanced Healthcare Materials, 2019, 8, e1801311.	3.9	27
50	A Three-Site Clinical Feasibility Study of a Flexible Functional Electrical Stimulation System to Support Functional Task Practice for Upper Limb Recovery in People With Stroke. Frontiers in Neurology, 2019, 10, 227.	1.1	2
51	Stimulation Wave Profiles for Elbow Flexion in Surface Electrical Stimulation Based on Burst-Modulated Symmetric Biphasic Rectangular Waves. , 2019, , .		2
52	Electrotactile Stimulation Waveform Modulation Based on A Customized Portable Stimulator: A Pilot Study. , 2019, , .		6
53	A Method for Suppressing Electrical Stimulation Artifacts from Electromyography. International Journal of Neural Systems, 2019, 29, 1850054.	3.2	18
54	Voluntary and FES-Induced Finger Movement Estimation Using Muscle Deformation Features. IEEE Transactions on Industrial Electronics, 2020, 67, 4002-4012.	5.2	13
55	The Effects of Upper Limb Motor Recovery on Submovement Characteristics among the Patients with Stroke: A Meta-Analysis. PM and R, 2020, 12, 589-601.	0.9	1

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56	Effects of Gamification in BCI Functional Rehabilitation. <i>Frontiers in Neuroscience</i> , 2020, 14, 882.	1.4	23
57	Focal Muscle Vibration for Stroke Rehabilitation: A Review of Vibration Parameters and Protocols. <i>Applied Sciences (Switzerland)</i> , 2020, 10, 8270.	1.3	7
58	Functional Electrical Stimulation Controlled by Motor Imagery Brain-Computer Interface for Rehabilitation. <i>Brain Sciences</i> , 2020, 10, 512.	1.1	12
59	Development of a flickering action video based steady state visual evoked potential triggered brain computer interface-functional electrical stimulation for a rehabilitative action observation game. <i>Technology and Health Care</i> , 2020, 28, 509-519.	0.5	5
60	Review on motor imagery based BCI systems for upper limb post-stroke neurorehabilitation: From designing to application. <i>Computers in Biology and Medicine</i> , 2020, 123, 103843.	3.9	115
61	Brain-computer interfaces in neurologic rehabilitation practice. <i>Handbook of Clinical Neurology / Edited By P J Vinken and G W Bruyn</i> , 2020, 168, 101-116.	1.0	43
62	Functional Electrical Stimulation Therapy for Retraining Reaching and Grasping After Spinal Cord Injury and Stroke. <i>Frontiers in Neuroscience</i> , 2020, 14, 718.	1.4	58
63	Advances in motion and electromyography based wearable technology for upper extremity function rehabilitation: A review. <i>Journal of Hand Therapy</i> , 2020, 33, 180-187.	0.7	14
64	In vivo spatiotemporal patterns of oligodendrocyte and myelin damage at the neural electrode interface. <i>Biomaterials</i> , 2021, 268, 120526.	5.7	28
65	Prospects for intelligent rehabilitation techniques to treat motor dysfunction. <i>Neural Regeneration Research</i> , 2021, 16, 264.	1.6	30
66	A randomised clinical trial comparing 35ÅHz versus 50ÅHz frequency stimulation effects on hand motor recovery in older adults after stroke. <i>Scientific Reports</i> , 2021, 11, 9131.	1.6	8
67	Improved Functional Outcome After Peripheral Nerve Stimulation of the Impaired Forelimb Post-stroke. <i>Frontiers in Neurology</i> , 2021, 12, 610434.	1.1	5
68	Physical principles of brain-computer interfaces and their applications for rehabilitation, robotics and control of human brain states. <i>Physics Reports</i> , 2021, 918, 1-133.	10.3	88
69	Activation of Superficial and Deep Finger Flexors Through Transcutaneous Nerve Stimulation. <i>IEEE Journal of Biomedical and Health Informatics</i> , 2021, 25, 2575-2582.	3.9	3
70	Cortical Re-organization After Traumatic Brain Injury Elicited Using Functional Electrical Stimulation Therapy: A Case Report. <i>Frontiers in Neuroscience</i> , 2021, 15, 693861.	1.4	13
71	The effects of concurrent M1 anodal tDCS and physical therapy interventions on function of ankle muscles in patients with stroke: a randomized, double-blinded sham-controlled trial study. <i>Neurological Sciences</i> , 2022, 43, 1893-1901.	0.9	11
72	Combination of Stem Cells and Rehabilitation Therapies for Ischemic Stroke. <i>Biomolecules</i> , 2021, 11, 1316.	1.8	16
73	Corticomuscular and Intermuscular Coupling in Simple Hand Movements to Enable a Hybrid Brain-Computer Interface. <i>International Journal of Neural Systems</i> , 2021, 31, 2150052.	3.2	15

#	ARTICLE	IF	CITATIONS
74	sEMG-Driven Functional Electrical Stimulation Tuning via Muscle Force. IEEE Transactions on Industrial Electronics, 2021, 68, 10068-10077.	5.2	4
75	Intensity and Dose of Neuromuscular Electrical Stimulation Influence Sensorimotor Cortical Excitability. Frontiers in Neuroscience, 2020, 14, 593360.	1.4	27
76	A Multi-channel EMG-Driven FES Solution for Stroke Rehabilitation. Lecture Notes in Computer Science, 2018, , 235-243.	1.0	7
78	Interventions to Improve Movement and Functional Outcomes in Adult Stroke Rehabilitation: Review and Evidence Summary. Journal of Participatory Medicine, 2018, 10, e3.	0.7	15
79	EFFECTIVENESS OF FUNCTIONAL MUSCLE STIMULATION IN IMPROVING MOTOR CONTROL AROUND SHOULDER IN PATIENTS WITH HEMIPLEGIA. International Journal of Physiotherapy and Research, 2015, 3, 863-867.	0.1	0
81	Cortical Plasticity in Response to Injury and Disease. , 2017, , 37-56.		2
83	KlÄrungsmodelle und Wirkweise der Funktionellen Elektrostimulation. , 2021, , 21-31.		0
84	Analytical and Experimental Investigation of Temporal Interference for Selective Neuromuscular Activation. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2020, 28, 3100-3112.	2.7	5
85	CLINICAL STUDY ON THE EFFICACY OF THE DEVICE FOR ELECTROSTIMULATION WITH BIO-CONTROL IN REHABILITATION OF PATIENTS WITH MOTOR DEFICIENCY SUFFERED FROM CEREBRAL STROKE. World of Medicine and Biology, 2020, 16, 44.	0.1	0
86	An Additional Fee for Using Equipment for Increasing the Amount of Exercise in Cerebrovascular Disease Rehabilitation. Rigakuryoho Kagaku, 2020, 35, 757-763.	0.0	0
87	TetraGrip â€“ a four channel upper limb FES device for people with C5/C6 tetraplegia: device design and clinical outcome. Journal of Medical Engineering and Technology, 2020, 44, 38-44.	0.8	2
88	A novel rehabilitation technology: gait training with WalkAide for post-stroke patients. Nosotchu, 2020, 42, 29-36.	0.0	2
89	Neuromuscular Electrical Stimulation Improves Activities of Daily Living Post Stroke: A Systematic Review and Meta-analysis. Archives of Rehabilitation Research and Clinical Translation, 2022, 4, 100167.	0.5	12
90	Â¿CÃ³mo Mejorar la Actividad Tras un ICTUS? EstimulaciÃ³n ElÃ©ctrica Funcional.. , 2019, , .		0
91	Post-Stroke Treatment with Neuromuscular Functional Electrostimulation of Antagonistic Muscles and Kinesiotherapy Evaluated with Electromyography and Clinical Studies in a Two-Month Follow-Up. International Journal of Environmental Research and Public Health, 2022, 19, 964.	1.2	10
92	A Flexible Pulse Generator Based on a Field Programmable Gate Array Architecture for Functional Electrical Stimulation. Frontiers in Neuroscience, 2021, 15, 702781.	1.4	2
93	Distribution of M-Wave and H-Reflex in Hand Muscles Evoked via Transcutaneous Nerve Stimulation: A Preliminary Report. , 2021, 2021, 5897-5900.		1
94	A Real-time sEMG-based Control Strategy and System for Contralaterally Controlled Functional Electrical Stimulation. , 2021, , .		2

#	ARTICLE	IF	CITATIONS
95	Effectiveness of Contralaterally Controlled Functional Electrical Stimulation versus Neuromuscular Electrical Stimulation on Upper Limb Motor Functional Recovery in Subacute Stroke Patients: A Randomized Controlled Trial. <i>Neural Plasticity</i> , 2021, 2021, 1-7.	1.0	7
99	Module 1. <i>The Journal of the International Society of Physical and Rehabilitation Medicine</i> , 2022, 5, S3-S22.	0.1	0
100	A Co-driven Functional Electrical Stimulation Control Strategy by Dynamic Surface Electromyography and Joint Angle. <i>Frontiers in Neuroscience</i> , 0, 16, .	1.4	0
101	A Novel Patient-Tailored, Cumulative Neurotechnology-Based Therapy for Upper-Limb Rehabilitation in Severely Impaired Chronic Stroke Patients: The AVANCER Study Protocol. <i>Frontiers in Neurology</i> , 0, 13, .	1.1	6
102	The Facial Skin Blood Flow Change of Stroke Patients with Facial Paralysis after Peripheral Magnetic Stimulation: A Pilot Study. <i>Brain Sciences</i> , 2022, 12, 1271.	1.1	0