

## DAFTAR PUSTAKA

- Alon G, Levitt AF, and McCarthy PA. 2007. Functional electrical stimulation enhancement of upper extremity functional recovery during stroke rehabilitation: A Pilot Study. *Neurorehabilitation Neural Repair*, 21:207–215.
- Andrade SM, Batista LM, Nogueira LL, Oliveira RF, Carvalho AG, Lima SS, Santana JRM, Lima E, and Calvo BF. 2017. Constraint-Induced Movement Therapy Combined with Transcranial Direct Current Stimulation over Premotor Cortex Improves Motor Function in Severe Stroke: A Pilot Randomized Controlled Trial. *Hindawi Rehabilitation Research and Practice Volume*, Article ID 6842549, 9 pages <https://doi.org/10.1155/2017/6842549>.
- Bentley P, Kumar G, Rinne P, Buddha S, Kallingal J, Hookway C, Sharma P, Mehta A, and Beckmann C. 2014. Lesion locations influencing baseline severity and early recovery in ischaemic stroke. *European Journal of Neurology*, 21(9):1226–1232. ISSN 14681331. doi: 10.1111/ene.12464.
- Bill NN, Merzenich M. 2001. Principles of neuroplasticity: Implications for neurorehabilitation and learning. In: Gonzales EG, Myers SJ, Edelstein JE, Lieberman JS, Downey JA, editors. *Downey & Darling's : Physiological basis of rehabilitation medicine*. 3 ed. USA: Butterworth-Heinemann;. p 609-24.
- Blanton S and Wolf SL. 2006. Arm and hand weakness. In: Selzer ME, Clarke S, Cohen LG, Duncan PW, Gage FH, editors. *Textbook of Neural Repair and Rehabilitation*. Cambridge: Cambridge University Press;. p 265-82
- Bliss TV and Collingridge GL. 1993. A synaptic model of memory: long-term potentiation in the hippocampus. *Nature*, 361(6407):31–39,. ISSN 0028-0836. doi: 10.1038/361031a0.
- Brita F, Janine R, Keri M, Heidi MS, Yuanyuan J, Cohen LG, and Lu B. 2011. Direct current stimulation promotes BDNF-dependent synaptic plasticity: Potential implications for motor learning. *Leonardo*, 66(2):198–204, 2011. ISSN 10974199.doi: 10.1016/j.neuron.2010.03.035.
- Burgar CG, Lum PS, Scrimin AM, Erika G, Susan L, Loos HF, Kenney MV, Deborah, and Shor P. 2011. Robot-assisted upper-limb therapy in acute rehabilitation setting following stroke: Department of veteran affairs multisite clinical trial. *Journal of Rehabilitation Research and Development*, 48(4), 445-458.
- Busser Y, Lisa G, Steenackers K, and Waarlo S. 2016. Uncovering the

- mechanism of transcranial direct current stimulation-induced neuroplasticity after stroke. Research proposal for the Honours programme at the Radboud University's Faculty of Science. 1-15
- Butler AJ, Shuster M, O'Hara E, Hurley K, Middlebrooks D, and Guilkey K. 2012. A meta-analysis of the efficacy of anodal transcranial direct current stimulation for upper limb motor recovery in stroke survivors. *Journal of Hand Therapy* p:26
- Calabresi P, Pisani A, Mercuri NB, and Bernardi G. 1992. Long-term potentiation in the striatum is unmasked by removing the voltage dependent magnesium block of NMDA receptor channels. *European Journal of Neuroscience*, 4(10):929–935., ISSN 0953816X. doi: 10.1111/j.1460-9568.1992.tb00119.x.
- Carmichael S. 2008. Themes and strategies for studying the biology of stroke recovery in the poststroke epoch. *Stroke*, 39(4), pp. 1380-1388.
- Carr JH, and Sheperd BA, 1987. A Motor Learning Model for Stroke Rehabilitation. *Physiotherapy*, 75(7).
- Chang, W.H, Park E, Lee J, Lee A, Kim Y.H. 2017. Association Between Brain-Derived Neurotrophic Factor Genotype and Upper Extremity Motor Outcome After Stroke. *AHA Journals Stroke*. 2017;48:00-00. DOI:10.1161/STROKEAHA.116.015264.
- Chhatbar PY, Kautz SA, Takacs I, Rowland NC, Revuelta GJ, George MS, Bikson M, and Feng W. 2019. Evidence of transcranial direct current stimulation-generated electric fields at subthalamic level in human brain *in vivo*. PubMed Centre
- Chouinard PA, Leonard G, and Paus T, 2005. Role of the primary motor and dorsal premotor cortices in the anticipation of forces during object lifting. *J Neurosci*, 25:2277–2284.
- Cho HS and Cha HG. 2015 .Effect of mirror therapy with tDCS on functional recovery of the upper extremity of stroke patients. *J. Phys. Ther. Sci.* 27: 1045–1047.
- Cramer CS. 2008. Repairing the human brain after stroke: I. Mechanisms of spontaneous recovery. *Annals of Neurology*, 63(3):272–287, 2008. ISSN 03645134. doi: 10.1002/ana.21393
- Dobkin BH. The clinical science of neurologic rehabilitation. 2 ed.: Oxford University Press; 2009.
- Dohle C, Pullen J, Nakaten A, Kust J, Rietz C, and Karbe H. 2009. Mirror therapy promotes recovery from severe hemiparesis: a randomized controlled trial. *Neurorehabilitation and neural repair*. ;23(3):209-17.

- Dum RP, and Strick PL, 1991. The origin of corticospinal projections from the premotor areas in the frontal lobe. *J Neurosci*, 11:667–689.
- Duus P. 2005. Topical diagnosis in neurology: Anatomy, Physiology, Signs, and Symptoms. 4<sup>th</sup> revised ed. New York. Thieme
- Elsner B, Kwakkel G, Kugler J, and Mehrholz J. 2017. Transcranial direct current stimulation (tDCS) for improving capacity in activities and arm function after stroke: a network meta-analysis of randomised controlled trials. Elsner et al. *Journal of NeuroEngineering and Rehabilitation* 14:95 DOI 10.1186/s12984-017-0301-7.
- Fugl-Meyer AR, Jaasko L, and Leyman I, 1975. The post-stroke hemiplegic patient: a method for evaluation of physical performance. *Scand J Rehabil Med*, 7:13–31.
- Ganong, William F. 2008. Buku Ajar Fisiologi Kedokteran (Edisi 22). Widjajakusuma, M Djauhari et al. 2007 (alih bahasa), Penerbit Buku Kedokteran EGC: Jakarta
- Garry MI, Loftus A, and Summers JJ. 2005. Mirror, mirror on the wall: viewing a mirror reflection of unilateral hand movements facilitates ipsilateral M1 excitability. *Experimental brain research*;163(1):118-22.
- Gottfried S, Vijay R, and Dinesh N. 2008. Transcranial direct current stimulation in stroke recovery. *Archives of neurology*, 65(12):1571– 1576, 2008. ISSN 1538-3687. doi: 10.1001/archneur.65.12.1571.
- Gupta V, You Y, Klistorner A, Graham, S. 2013. TrkB Receptor Signalling: Implications in Neurodegenerative, Psychiatric and Proliferative Disorders. *International Journal of Molecular Sciences*. 14(5):10122-10142.
- Hara Y. 2013. Rehabilitation with functional electrical stimulation in stroke patients. *International Journal of Physical Medicine and Rehabilitation*, 1:6.
- Harris JE and Eng JJ. 2010. Strength training improves upper-limb function in individuals with stroke: a meta-analysis. *Stroke*, 41:136-140.
- Hatem SM, Saussez G, della Faille M, Prist V, Zhang X, Dispa D, Bleyenheuft Y. 2016 Rehabilitation of Motor Function after Stroke: A Multiple Systematic Review Focused on Techniques to Stimulate Upper Extremity Recovery. *Front. Hum. Neurosci*. 10:442. doi: 10.3389/fnhum.2016.00442
- Hill MD, Weir NU, Pexman JH, and Buchan AM. 2006. CASES Investigators.

How well does ASPECTS predict the outcome of acute stroke treated with IV tPA? Neurology.;67:516–518. doi: 10.1212/01.wnl.0000228221.44334.73.

- Harvey RL, Roth EJ, Yu DT, and Celnik P. 2011. Stroke syndrome, in Braddom RL: Physical Medicine and Rehabilitation, 4<sup>th</sup> ed. Philadelphia: Elsevier Saunders, p 1177-89.
- Johansson RS and Westling G. 1988. Coordinated isometric muscle commands adequately and erroneously programmed for the weight during lifting task with precision grip. *Exp Brain Res*, 71:59–71.
- Kabi GYCR, Tumewah R, and Kembuan MAHN. 2015. Gambaran Faktor Risiko Pada Penderita Stroke Yang Dirawat Inap Neurologi RSUP Prof. Dr. R. D. Kandou Manado Periode Juli 2012-Juni 2013. *Jurnal e-Clinic (eCl)*. Vol 3.
- Kim DY, Ohn SH, Yang EJ, Park C-I, and Jung KJ. 2009. Enhancing motor performance by anodal transcranial direct current stimulation in subacute stroke patient. *American Journal of Physical Medicine and Rehabilitation*
- Kleim J and Jones T. 2008. Principles of experience-dependent neural plasticity: implications for rehabilitation after brain damage. *Journal of Speech, Language and Hearing Research*, 51(1), p. 225.
- Kotlega D, Peda B, Zembron-Lacny A, Golqb-Janowska M, Nowacki P. 2017. The Role of Brain Derived Neurotrophic Factor and Its Single Nucleotide Polymorphisms in Stroke Patients. *Neurologia I Neurochirurgica*. Elsevier. 51 (3): 240-246
- Kusumaningsih W. 2004. Fenomena pantom pasca amputasi anggota gerak akibat trauma dan faktor yang mempengaruhinya. Jakarta: Program studi doktor ilmu kedokteran Universitas Indonesia.
- Lang CE, Wagner JM, Edwards DF, Sahrmann SA, Dromerick AW. 2006. Recovery of grasp versus reach in people with hemiparesis poststroke. *Neurorehabilitation and neural repair*. ;20(4):444-54.
- Lasek-Bal A, Jędrzejowska-Szypułka H, Rózycka J, Bal W, Holecki M, Duława J, Lewin-Kowalik J. 2015. Low Concentration of BDNF in The Acute Phase of Ischemic Stroke as A Factor in Poor Prognosis in Terms of Functional Status of Patients. *Medical Science Monitor*. 21: 3900–3905
- Levin MF, 1996. Interjoint coordination during pointing movements is disrupted in spastic hemiparesis. *Brain*, 119(1):281–293.
- Lefaucheur, JP, Antal A, Ayache SS, Benninger DH, Brunelin J, Cogiamanian F, Maria C, Ridder DD, Roberta F, Berthold L, Marangolo P., Mylius V. Nitsche MA, Padberg F, Ulrich P, Emmanuel P, Alberto P, Rossi S. Martin, Schecklmann M, Vanneste S, Ziemann U, Luis Garcia-Larrea,

- and Paulus W. 2017. Evidence-based guidelines on the therapeutic use of transcranial direct current stimulation. *Clinical neurophysiology journal*. <http://dx.doi.org/10.1016/j.clinph.2016.10.087> 1388-2457/\_2016 International Federation of Clinical Neurophysiology. Published by Elsevier Ireland Ltd.
- Mandal AK and Mokashi SP. 2009. Effect of occupational therapy task oriented approach on recovery of upper-extremity motor function and activities of daily living in stroke patients. *The Indian journal of Occupational Therapy*: Vol. XLI: No.2 (May 2009-August 2009)
- Monks T, Pitt M, Stein K, and James M. 2012. Maximizing the population benefit from thrombolysis in acute ischemic stroke-a modeling study of in-hospital delays. *Stroke*, 43(10), pp. 2706-2711.
- Murphy TH, and Corbett D. 2009. Plasticity during stroke recovery : from synapse to behaviour. 10(December).doi: 10.1038/ nrn2735. URL <http://dx.doi.org/10.1038/nrn2735>.
- Nitsche MA, Liebetanz D, Lang N, Antal A, Tergau F, Paulus W. 2003. Safety criteria for transcranial direct current stimulation (tDCS) in humans. *Clin.Neurophysiol.* 114,2220–2222. doi:10.1016/s1388- 2457(03)00235-9
- Pandian S, Arya KN, and Kumar D. 2016. Minimal Clinically Important Difference of the Lower-extremity Fugl-Meyer Assessment in Chronic Stroke. *Topics in Stroke Rehabilitaion*.pp. 1945 – 5119.
- Paoletti P, Bellone C, and Zhou Q. 2013. NMDA receptor subunit diversity: impact on receptor properties, synaptic plasticity and disease. *Nature reviews. Neuroscience*, 14(6):383–400. ISSN 1471-0048. doi: 10.1038/nrn3504
- Pavlova E, Kuo MF, Nitsche MA, and Borg J. 2014. Transcranial Direct Current Stimulation of the premotor cortex: effects on hand dexterity. *Brain research* 1576 52-62.
- Pedretti LW and Early MB. 2004. Occupational performance and models of practice for physical dysfunction in Occupational therapy practice skills for physical dysfunction . St Louis: Mosby
- PERMENKES. 2014. Peraturan mentri kesehatan republik indonesia nomer 76 tahun 2014: tentang standar pelayanan terapi okupasi. Mei 21, 2016. [http://sinforeg.litbang.depkes.go.id/upload/regulasi/PMK\\_No.\\_76\\_ttg\\_Sta\\_ndar\\_Pelayanan\\_Terapi\\_Okupasi\\_.pdf](http://sinforeg.litbang.depkes.go.id/upload/regulasi/PMK_No._76_ttg_Sta_ndar_Pelayanan_Terapi_Okupasi_.pdf).
- Piccirillo G, Moscucci F, Ottaviani C, and Parrota I. 2016. Transcranial direct

- current stimulation improves the QT variability index and autonomic cardiac control in healthy subjects over sixty years old. Clinical Interventions in Aging 2016;11:1687–1695
- Pin-Barre C and Laurin J. 2015. Physical exercise as a diagnostic, rehabilitation, and preventive tool: influence on neuroplasticity and motor recovery after stroke. *Neural plasticity*. 15: 608581.
- Ploughman M, Windle V, MacLellan CL, White N, Doré JJ, Corbett D. 2009. Brain-derived neurotrophic factor contributes to recovery of skilled reaching after focal ischemia in rats. *Stroke*, 40 (4): 1490-1495.
- Podda MV, Cocco S, Mastrodonato A, Salvatore F, Lucia L, Saviana AB, Claudia C, Cristian R, and Claudio G. 2016. Anodal transcranial direct current stimulation boosts synaptic plasticity and memory in mice via epigenetic regulation of BDNF expression. *Scientific Reports* | 6:22180 | DOI: 10.1038/srep22180.
- Poreisz C, Boros K, Antal A, and Paulus W. 2007. Safety aspects of transcranial direct current stimulation concerning healthy subjects and patients. *Brain Res Bull* 72: 208-214
- Raghavan P, 2007. The nature of hand motor impairment after stroke and its treatment. *Current Treatment Options in Cardiovascular Medicine*, 9:221–228.
- Rahayu EO. 2016. Perbedaan Risiko Stroke Berdasarkan Faktor Risiko Biologi Pada Usia Produktif. *Jurnal Berkala Epidemiologi*. Vol 4.
- Rilianto B. 2015. Evaluasi dan Manajemen Status Epileptikus. *Continuing Medical Education*. 42 (10): 750 – 754.
- RISKESDAS (Riset Kesehatan Dasar). 2008. Badan Penelitian dan Pengembangan Kesehatan Kemenkes RI. Jakarta.
- RISKESDAS (Riset Kesehatan Dasar). 2013. Badan Penelitian dan Pengembangan Kesehatan Kemenkes RI. Jakarta.
- Roche N, Geiger M, and Bussel B. 2015. Mechanisms underlying transcranial direct current stimulation in rehabilitation. <http://dx.doi.org/10.1016/j.rehab.2015.04.009> 1877-0657/\_2015 Published by Elsevier Masson SAS.
- Rozisky JR, Antunes LC, Brietzke AP, de Sousa AC, Caumo W. 2015. Transcranial direct current stimulation and neuroplasticity in: Rogers L. *Transcranial Direct Current Stimulation (tDCS): Emerging Uses, Safety And Neurobiological Effects* p63-75. Nova Pub Inc. <https://www.researchgate.net/publication/305439421>
- Sanford J, Moreland J, Swanson LR, Stratford PW, Gowland C. 1993. Reliability

- of the Fugl-Meyer Assessment for Testing Motor Performance in Patients Following Stroke. *Physical Therapy Journals.* 73 (7): 447 – 454.
- Sara J. 2015. Stroke. In: *Physical Medicine and Rehabilitation Board Review.* 3<sup>th</sup> ed., New York: Demos medical. Pp: 465-469, 593-599, 1194-1197.
- Sciusco A, Ditrenta G, Rahim A. 2008. Mirror therapy in the motor recovery of upper extremity. *Eur Med Phys:* 44
- Shadmehr R, and Wise SP, eds, 2005. The Computational Neurobiology of Reaching and Pointing: A Foundation for Motor Learning. Cambridge, MA: MIT Press.
- Stagg CJ and Nitsche MA. 2011. Physiological basis of Transcranial Direct current Stimulation. *The Neuroscientist* 17 (1) 37-53.
- Stagg CJ, Antal A, Nitsche MA. 2018. Physiology of Transcranial Direct Current Stimulation. *J ECT* 2018;00: 00–00
- Standar Prosedur Operasional (SPO). 2018. Pelayanan Medik SMF Kedokteran Fisik dan Rehabilitasi RSUD DR Soetomo
- Stein J and Brandstater ME. 2010. Stroke rehabilitation. In: *DeLisa's: Physical Medicine and Rehabilitation Principles and Practice.* 5<sup>th</sup> ed. Philadelphia. Lippincott William & Wilkins, p 551-562.
- Stoykov ME, Corcos DM. 2009. A review of bilateral training for upper extremity hemiparesis. *Occupational therapy international.*;16(3-4):190-203.
- Sullivan KJ, Tilson JK, Cen SY, Rose DK, Hershberg J, Correa A, Gallichio J, McLeod M, Moore C, Wu SS, Duncan PW. 2011. Fugl-Meyer Assessment of Sensorimotor Function After Stroke Standardized Training Procedure for Clinical Practice and Clinical Trials. *American Heart Association Journals.* 42: 427 – 432.
- Sutbeyaz S, Yavuzer G, Sezer N, and Koseoglu BF. 2007. Mirror therapy enhances lower-extremity motor recovery and motor functioning after stroke: a randomized controlled trial. *Archives of physical medicine and rehabilitation,* 88(5):555-9.
- Takano H, Hiroshi I, Hidehiko T, Arakawa R, Okumura M, Kodaka F, Otsuka T, Kato M, and Suhara T. 2011. Serotonergic neurotransmission in the living human brain: a positron emission tomography study using [C]dasb and [C]WAY100635 in young healthy men. *Synapse (New York, N.Y.),* 65(7):624–33, 2011. ISSN 1098-2396. doi: 10.1002/syn.20883. URL <http://www.ncbi.nlm.nih.gov/pubmed/21484882>
- Taub E, Uswatte G, Mark VW, and Morris DMM. 2006. The learned nonuse phenomenon: implications for rehabilitation. *Europa Medicophysica.*

- 42(3):241–56.
- Thair H, Holloway AL, Newport R, and Smith AD. 2017. Transcranial direct current stimulation (tDCS): a beginner's guide for design and implementation. *Frontiers in neuroscience*.
- Ward NS and Cohen LG. Mechanisms underlying recovery of motor function after stroke. *Archives of Neurology* 2004;61(12):1844-8.
- Wardhani NR and Martini S. 2014. Hubungan Antara Karakteristik Pasien Stroke Dan Dukungan Keluarga Dengan Kepatuhan Menjalani Rehabilitasi. *Jurnal Berkala Epidemiologi*. Vol 3.
- World Federation of Occupational Therapist. 2012. *Definition of occupational therapy*. London: World Federation of Occupational Therapist. July 21,2018.[http://www.wfot.org/aboutus/aboutoccupationaltherapy/definition\\_ofoccupation](http://www.wfot.org/aboutus/aboutoccupationaltherapy/definition_ofoccupation)
- Yastroki. 2011. Waspada stroke. HYPERLINK “<http://www.yastroki.or.id>” <http://www.yastroki.or.id>
- Yavuzer G, Selles R, Sezer N, Sutbeyaz S, Bussmann JB, and Kaseoglu F. 2008. Mirror therapy improves hand function in subacute stroke: a randomized controlled trial. *Archives of physical medicine and rehabilitation*. 89(3):393-8.
- Y-Rita P. 1987. Process of recovery from stroke. In: Brandstater M, Basmajian J, editors. *Stroke rehabilitation*. USA: Williams & Wilkin; p 81-108.
- Zhang L, Hu X, Luo J, Li L, Chen X, Huang R, Pei Z. 2013. Physical Exercise Improves Functional Recovery Through Mitigation of Autophagy, Attenuation of Apoptosis and Enhancement of Neurogenesis After MCAO in Rats. *BMC neuroscience*. 14 (1): 46
- Zorowitz RD and Baerga E. 2010. Cucurulo SJ. Stroke. In: *Physical Medicine and Rehabilitation Board Review*, 2<sup>nd</sup> ed., New York: Demos Medical, p 1-28