

## LITERATURVERZEICHNIS

1. Amassian VE, Vegara M, Somasundaram M, Maccabee PJ, Cracco RQ (1997) Temporary relief of induced pain by repetitive magnetic stimulation of human parietal lobe. *J Physiol* 499:89
2. Anand S, Hotson J (2002) Transcranial magnetic stimulation: Neurophysiological applications and safety. *Brain and Cognition* 50:366-86
3. Andersen G, Vestergaard K, Ingemann- Nielsen M, Jensen TS (1995) Incidence of central post-stroke pain. *Pain* (61): 187-93
4. Barker A, Jalinous R, Freeston I (1985) Non-invasive magnetic stimulation of the human motor cortex. *Lancet* 1:1106-1107
5. Bestmann S, Baudewig J, Siebner HR, Rothwell JC, Frahm J (2003) Subthreshold high-frequency TMS of human primary motor cortex modulates interconnected frontal motor areas as detected by interleaved fMRI-TMS. *Neuroimage* 20(3):1685-96
6. Bestmann S, Baudewig J, Siebner HR, Rothwell JC, Frahm J (2004) Functional MRI of the immediate impact of transcranial magnetic stimulation on cortical and subcortical circuits. *Eur J Neurosci* 19(7): 1950-62
7. Birbaumer A, Schmidt RF (2002) *Biologische Psychologie*. 4.Auflage, Springer: Berlin
8. Bliss TVP, Lomo T (1973) Long-lasting potentiation of synaptic transmission in the dentate area of the anaesthetized rabbit following stimulation of the perforant path. *J Physiol.* 232: 331-56
9. Bowsher D (1995) The management of central post-stroke pain. *Postgrad Med J* 71(840): 598-604
10. Bowsher D (1996) Central pain: clinical and physiological characteristics. *J Neurol Neurosurg Psychiatry* 61: 62-69
11. Bowsher D, Leijon G, Thuomsa KA (1998) Central poststroke pain: correlation of MRI with clinical pain characteristics and sensory abnormalities. *Neurology* 51(5): 1352-58
12. Brandt SA, Ploner CJ, Meyer BU (1997) Repetitive transkranielle Magnetstimulation. Möglichkeiten, Grenzen und Sicherheitsaspekte. *Nervenarzt* 68: 778-784

13. Brandt SA, Brocke J, Röricht S, Ploner J, Villringer A, Meyer BU (2001) *In Vivo* Assessment of Human Visual System Connecting with Transcranial Electric Stimulation during Functional Magnetic Resonance Imaging. *NeuroImage* 14:366-75
14. Canavero S, Bonicalzi V (1998) The neurochemistry of central pain: evidence from clinical studies, hypothesis and therapeutic implications. *Pain* 74: 109-14
15. Carroll D, Joint C, Maartens N, Shlugman D, Stein J, Aziz TZ (2000) Motor cortex stimulation for chronic neuropathic pain: a preliminary study of 10 cases. *Pain* 84(2-3):431-7
16. Castro-Alamancos MA, Donoghue JP, Connors BW (1995) Different forms of synaptic plasticity in somatosensory and motor areas of the neocortex. *J Neurosci* 15:5324-33
17. Chen R, Classen J, Gerloff C, Celnik P, Wassermann EM, Hallett M, Cohen LG (1997a) Depression of motor cortex excitability by low-frequency transcranial magnetic stimulation. *Neurology* 48: 1398-1403
18. Chen R, Gerloff C, Classen J, Wassermann EM, Hallett M, Cohen LG (1997b) Safety of different inter-train intervals for repetitive transcranial magnetic stimulation and recommendations for safe ranges of stimulation parameters. *EEG Clin Neurophysiol* 105(6): 415-21
19. Chen R, Corwell B, Yaseen Z, Hallett M, Cohen LG (1998a) Mechanisms of Cortical Reorganization in Lower-Limb Amputees. *J Neurosci* 18(9):3443-50
20. Collins SL, Moore RA, McQuay HJ (1997) The visual analogue pain intensity scale: what is moderate pain in millimeters? *Pain* 72: 95-97
21. Craig AD, Bushnell MC, Zhan ET, Blomqvist A (1994) A thalamic nucleus specific for pain and temperature sensation. *Nature* 372:770-773
22. Craig AD, Bushnell (1994a) The thermal grill illusion: unmasking the burn of cold pain. *Science* 265(5169):252-55
23. Darian-Smith C, Gilbert CD (1994) Axonal sprouting accompanies functional reorganization in adult cat striate cortex. *Nature* 368:737-40
24. Defrin R, Ohry A, Blumen N, Urca G (2002) Sensory determinants of thermal pain. *Brain* 125(3):501-10

25. Dettmers C, Adler T, Rzanny R, van Schayck R, Gaser C, Weiss T, Miltner WH, Bruckner L, Weiller C (2001) Increased excitability in the primary motor cortex and supplementary motor area in patients with phantom limb pain after upper limb amputation. *Neurosci Lett* 307(2): 109-12
26. Di Lazarro V, Oliviero A, Berardelli A, Mozzone P, Insola A, Pilato F, Saturno E, Dileone M, Tonali PA, Rothwell JC (2002) Direct demonstration of the effects of repetitive transcranial magnetic stimulation on the excitability of the human motor cortex. *Exp Brain Res* 144: 549-553
27. Di Lazarro V, Pilato F, Saturno E, Oliviero A, Dileone M, Mazzone P, Insola A, Tonali PA, Ranieri F, Huang YZ, Rothwell JC (2005) Theta-burst repetitive transcranial magnetic stimulation suppresses specific excitatory circuits in the human motor cortex. *J Physiol* 565.3:945-50
28. Drouot X, Nguyen JP, Peschanski M, Lefaucheur JP (2002) The antalgic efficacy of chronic motor cortex stimulation is related to sensory changes in the painful zone. *Brain* 125:1660-64
29. Dykes RW (1997) Mechanisms controlling neuronal plasticity in somatosensory cortex. *Can J of Physiol and Pharma* 75: 535-45
30. Farina S, Tinazzi M, Le Pera D, Valeriani M (2003) Pain-related modulation of the human motor cortex. *Neurol Res* 25: 130-142
31. Fields HL, Adams JE (1974) Pain after cortical injury relieved by electrical stimulation of the internal capsule. *Brain* 97:169-78
32. Flor H, Elbert T, Knecht S, Wienbruch C, Pantev C, Birbaumer N, Larbig W, Taub E (1995) Phantom-limb pain as a perceptual correlate of cortical reorganization following arm amputation. *Nature* 375(6531): 482-4
33. Flor H, Elbert T, Mühlnickel W, Pantev C, Wienbruch C, Taub E (1998) Cortical reorganization and phantom phenomena in congenital and traumatic upper-extremity amputees. *Exp Brain Res* 119: 205-12
34. Flor H, Denke C, Schaefer M, Grüsser M (2001) Sensory discrimination training alters both cortical reorganization and phantom limb pain. *Lancet* 357:1763-64
35. Flor H (2002) Phantom-limb pain: characteristics, causes and treatment. *Lancet Neurol* 1:182-89

36. Fukaya C, Katayama Y, Yamamoto T, Kobayashi K, Kasai M, Oshima H (2003) Motor cortex stimulation in patients with post-stroke pain: Conscious somatosensory response and pain control. *Neuro Res* 25:153-56
37. García-Larrea L, Peyron R, Mertens P, Gregoire MC, Lavenne F, Le Bars D, Convers P, Mauguiére F, Sindou M, Laurent B (1999) Electrical stimulation of motor cortex for pain control: a combined PET-scan and electrophysiological study. *Pain* 83:259-73
38. George MS et al. (1995) Daily repetitive transcranial magnetic stimulation (rTMS) improves mood in depression. *Neuroreport* 6:1853-1856
39. George MS, Ketter TA, Post RM (1994a) Prefrontal cortex dysfunction in clinical depression. *Depression* 2:59-72
40. George MS, Wassermann EM, Kimbrell TA, Little JT, Williams WE, Danielson AL, Greenberg BD, Hallet M, Post RM (1997) Mood improvement following daily left prefrontal repetitive transcranial magnetic stimulation in patients with depression: a placebo-controlled crossover trial. *Am J Psychiatry* 154:1752-1756
41. Gonzales GR (1995) Central Pain: Diagnosis and treatment strategies. *Neurology* 45(Suppl9): S12- 16
42. Grisaru N, Chudakov B, Yaroslavsky Y, Belmaker RH (1998) Transcranial magnetic stimulation in mania, a controlled study. *Am J Psychiatry* 155:1608-10
43. Grüsser SM, Winter C, Mühlnickel W, Denke C, Karl A, Villringer K, Flor H (2001) The relationship of perceptual phenomena and cortical reorganization in upper extremity amputees. *Neuroscience* 102(2): 263-72
44. Hammes, M. G., M. Bäcker, T. R. Tölle, B. Conrad (2000): Pain therapy. Value of unconventional methods. *MMW* 142:41-44
45. Hanajima R, Ashby P, Lang AE, Lozano AM (2002) Effects of acute stimulation through contacts placed on the motor cortex for chronic stimulation. *Clin Neophysiol* 113:635-41
46. Hebb DO (1949) *The organization of behavior*: A neuropsychological theory. John Wiley & Sons, Inc: New York
47. Hess G, Donoghue JP (1996) Long-term potentiation and long-term depression of horizontal connections in rat motor cortex. *Acta Neurobiol Exp (Wars.)* 56(1):397-05

48. Hill A (1999) Phantom limb pain: A review of the Literature on Attributes and Potential Mechanisms. *J Pain Symptom Manage* 17:125-42
49. Huang Y, Edwards MJ, Rounis E, Bhatia K, Rothwell JC (2005) Report Theta Burst Stimulation of the Human Cortex. *Neuron* 45: 201-06
50. Huse E, Larbig W, Birbaumer M, Flor H (2001) Kortikale Reorganisation und Schmerz. *Schmerz* 15:131-37
51. Jacobs KM, Donoughe JP (1991) Reshaping the cortical motor map by unmasking latent intracortical connections. *Science* 22:944-447
52. Jensen TS, Rasmussen P (1995) Phantom limb pain and related phenomena after amputation. In P.D. Wall and R. Melzack (eds) *Textbook of pain* Churchill Livingstone , New York pp 651-65
53. Juliano SL, Ma W, Eslin D (1991) Cholinergic depletion prevents expansion of topographic maps in somatosensory cortex. *Proceeding of the National Academy of Science* 88:780-84
54. Kammer T, Thielscher A (2001) Physikalische und physiologische Grundlagen der transkraniellen Magnetstimulation. *Nervenheilkunde* 22:168-76
55. Kandel ER, Schwartz JH, & Jessell TM (1991). *Principles of neural science*. Norwalk, Connecticut: Appleton & Lange
56. Kanner R: Pain Management Secrets. Philadelphia, Hanley & Belfus, Inc., 1997,
57. Karl A, Birbaumer N, Lutzenberger W, Cohen LG, Flor H (2001) Reorganization of motor and somatosensory cortex in upper extremity amputees with phantom limb pain. *J Neurosci* 21(10): 3609-18
58. Katayama Y, Fukaya C, Yamamoto T (1998) Poststroke pain control by chronic motor cortex stimulation: Neurological characteristics predicting a favorable response. *J. Neurosurg* 89(4): 585-91
59. Katayama Y, Yamamoto T, Kobayashi K, Kasai M, Oshima H, Fukaya C (2001) Motor Cortex Stimulation for Phantom Limb Pain: Comprehensive Therapy with Spinal Cord and Thalamic Stimulation. *Stereotact Funct Neurosurg* 77: 159-62
60. Katz J, Melzack R (1990) Pain „memories“ in phantom limbs: review and clinical observations. *Pain* 43: 319-36

61. Khedr EM, Kotb H, Kamel NF, Ahmed MA, Sadek R, Rothwell JC (2005) Longlasting antalgetic effects of daily sessions of repetitive transcranial stimulation in central and peripheral neuropathic pain. *J Neurol Neurosurg Psychiatry* 76: 833-38
62. Klein E, Kreinen I, Chistyakov A et al. (1999) Therapeutic efficacy of right prefrontal slow repetitive transcranial magnetic stimulation in major depression. A double blind controlled study. *Arch Gen Psychiatry* 56:315-320
63. Knecht S, Ringelstein EB (1999) Neuronale Plastizität am Beispiel des somatosensorischen Systems. *Nervenarzt* 70: 889-898
64. Koerber HR, Mironics K, Brown PB, Mendell LM (1994) Central sprouting and functional plasticity of regenerated primary afferents. *J Neurosci* 14:3655:71
65. Lefaucheur JP, Drouot X, Keravel Y, Nguyen JP (2001a) Pain relief induced by repetitive transcranial magnetic stimulation of precentral cortex. *Neuroreport* 12(13): 2963-65
66. Lefaucheur JP, Drouot X, Nguyen JP (2001b) Interventional neurophysiology for pain control: duration of pain relief following repetitive transcranial magnetic stimulation of the motor cortex. *Neurophysiol Clin* 31(4): 247-52
67. Lefaucheur JP, Drouot X, Menard-Lefaucheur I, Zerah F, Bendib B, Cesaro P, Keravel Y, Nguyen JP (2003) Neurogenic pain relief by repetitive transcranial magnetic cortical stimulation depends on the origin and the site of pain. *J Neurol Neurosurg Psych* 75: 612-16
68. Liaw MY, You DL, Cheng PT, Kao PF, Wong AM (1998) Central representation of phantom limb phenomenon in amputees studied with single photon emission computerized tomography. *Ann J Phys Med Rehab* 77(5): 368-75
69. Lotze M, Flor H, Grodd W, Larbig W, Birbaumer N (2001) Phantom movements and pain: an fMRI study in upper limb amputees. *Brain* 124:2268:77
70. Lundborg G (2000) Brain plasticity and hand surgery: an overview. *J Hand Surg* 25B:3: 242-52
71. Maeda F, Keenan JP, Tormos JM, Topka H, Pascual-Leone A (2000) Interindividual variability of the modulatory effects of repetitive transcranial magnetic stimulation on cortical excitability. *Exp Brain Res* 133:425-30

72. Malenka RC, Nicoll RA (1999) Long-Term Potentiation – A Decade of Progress? *Science* 285:1870-74
73. Melzack RA (1990) Phantom limbs and the concept of a neuromatrix. *Trends Neurosci* 13:88-92
74. Melzack RA, Israel R, Lacroix R, Schultz G (1997) Phantom limbs in people with congenital limb deficiency or amputation in early childhood. *Brain* 120:1603-20
75. Melzack RA (2001) Pain and the neuromatrix in the brain. *J Dent Educ* 65(12):1378-82
76. Mertens P, Nuti C, Sindou M, Guenot M, Peyron R, Garcia- Larrea L, Laurent B (1999) Precentral cortex stimulation for the treatment of central neuropathic pain: results of a prospective study in a 20-patients series. *Stereotact Funct Neurosurg* 73(1-4): 122-5
77. Meyer BU (1992) Magnetstimulation des Nervensystems. Springer, Berlin, S. 1-5
78. Meyer BU, Röricht S, Niehaus L, Brandt SA (1997) Repetitive transkranielle magnetische Stimulation der Großhirnrinde. *EEG-EMG* 28: 254-261
79. Michelucci R, Valzania F, Passarelli D, Santangelo M, Rizzi R, Buzzi AM, Tempestini A, Tassinari CA (1994) Rapid-rate transcranial magnetic stimulation and hemispheric language dominance: usefulness and safety in epilepsy. *Neurology* 44:1697-700
80. Migita K, Tohru U, Arita K, Monden S (1995) Transcranial Magnetic Coil Stimulation of Motor Cortex in Patients with Central Pain. *Neurosurgery* 36(5): 1037-39
81. Modugno N, Nakamura Y, MacKinnon CD, Filipovic SR, Bestamnn S, Berardelli A, Rothwell JC (2001) Motor cortex excitability following short trains of repetitive magnetic stimuli. *Exp Brain Res* 140:453-9
82. Montoya P, Larbig W, Grulke N, Flor H, Taub E, Birbaumer N (1997) The relationship of phantom pain to other phantom limb phenomena in upper extremity amputees. *Pain* 72:87-9
83. Nandi D, Aziz T, Carter H, Stein J (2003) Thalamic field potentials in chronic central pain treated by periventricular gray stimulation – a series of eight cases. *Pain* 101:97-107
84. Nguyen JP, Lefaucheur JP, Decq P, Uchiyama T, Carpentier A, Fontain D, Brugi P, Pollin B, Feve A, Rostaing S, Cesaro P, Keravel Y (1999) Chronic motor cortex stimulation in the treatment of central and neuropathic pain. Correlation between clinical, electrophysiological and anatomical data. *Pain* 82(3):245-51

85. Niesert W, Zenz M (2005) Prophylaxe chronischer Schmerzen. *Deutsches Ärzteblatt* 102(22)
86. Nicholson BD (2004) Evaluation and treatment of central pain syndrome. *Neurology* 62(Suppl 2):30-36
87. Nikolajsen L, et al. (1996) The effect of ketamine on phantom pain: A central neuropathic disorder maintained by peripheral input. *Pain* 67: 69-77
88. Nikolajsen L, Ilkjær S, Krøner K, Christensen JH, Jensen TS (1997) The influence of preamputation pain on postamputation stump and phantom pain. *Pain* 72: 393-405
89. Nikolajsen L, Staehelin Jensen T (2000) Phantom limb pain. *Curr Rev Pain* 4(2):166-70
90. Nowak LG, Bullier J (1998) Axons, but not cell bodies are activated by electrical stimulation in cortical gray matter. *Exp Brain Res* 118:489-500
91. Pascual-Leone A, Gates JR, Dhuna A (1991) Induction of speech arrest and counting errors with rapid-rate transcranial magnetic stimulation. *Neurology* 41: 697- 702
92. Pascual-Leone A, Valls-Solé J, Wassermann E, Hallett M (1994a) Responses to rapid-rate transcranial magnetic stimulation of the human motor cortex. *Brain* 117: 847-58
93. Pascual-Leone A, Valls-Solé J, Brasil-Neto P, Cammarota A, Grafmann J, Hallett M (1994b) Akinesia in Parkinson's disease. II Effects of subthreshold repetitive transcranial motor cortex stimulation. *Neurology* 44:892-98
94. Pascual-Leone A, Alonso A, Pascual-Leone P, Catala MD (1995) lasting beneficial effect of rapid-rate transcranial magnetic brain stimulation on slowness in Parkinson's disease. *Neurology* 45 (Suppl4):A315
95. Pascual-Leone A; Rubio B, Pallardó F, Calalá MD (1996) Rapid-rate transcranial magnetic stimulation of the left dorsolateral prefrontal cortex in drug-resistant depression. *Lancet* 348:233-237
96. Paulus W (2005) Toward Establishing a Therapeutic Window for rTMS by Theta Burst Stimulation. *Neuron* 45:181-83.
97. Paus T, Jech R, Thompson CJ, Comeau R, Peters T, Evans AC (1998) Dose-Dependent Reduction of Cerebral Blood Flow During Rapid-Rate Transcranial Magnetic Stimulation of the Human Sensorimotor Cortex. *J Neurophysiol* 79: 1102-07

98. Peyron R, Garcia-Larrea L, Deiber MP, Cinotti L, Convers P, Sindou M, Mauguière F, Laurent B (1995) Electrical stimulation of precentral cortical area in the treatment of central pain. electrophysiological and PET study. *Pain* 62: 275-86
99. Ramachandran VS, Rogers-Ramachandran D (1996) Synesthesia in phantom limbs induced with mirrors. *Proc R Soc Lond B Biol Sci* 263:377-86
100. Rasmussen KG, Rummans TA (2000) Electroconvulsive therapy for phantom limb pain. *Pain* 85(1-2): 297-99
101. Rinaldi PC, Young RF, Albe-Fessard D, Chodakiewitz J (1991) Spontaneous neuronal hyperactivity in the medial and intralaminar thalamic nuclei of patients with deafferentation pain. *J Neurosurg* 74:415-21
102. Rioult-Pedotti M, Donoghue J (2003) The nature and mechanisms of plasticity. In: S. Boniface & U. Ziemann (Eds.). Plasticity in the Human Nervous System: Investigations with Transcranial Magnetic Stimulation (pp.4-5) Cambridge University Press: Cambridge
103. Röricht S, Niehaus L, Meyer BU (1997) Kortikospinal und über den Balken vermittelte Handmuskel-Antworten nach fokaler magnetischer Reizung des motorischen Kortex. *Das EEG-Labor* 19/1: 1-11
104. Röricht S, Meyer BU, Niehaus L, Brandt S (1999) Long-term reorganization of motor cortex outputs after arm amputation. *Neurology* 53: 106-11
105. Rollnik JD, Schubert M, Dengler R (1999) Subthreshold prefrontal repetitive transcranial magnetic stimulation reduces motor cortex excitability. *Muscle Nerve* 23: 112-14
106. Rollnik JD, Wüstefeld S, Däuper J, Karst M, Fink M, Kossev A, Dengler R (2002) Repetitive transcranial magnetic stimulation for the treatment of chronic pain – a pilot study. *Eur Neurol* 48: 6-10
107. Rothwell J (2003) Techniques of transcranial magnetic stimulation. In: S. Boniface & U. Ziemann (Eds.). Plasticity in the Human Nervous System: Investigations with Transcranial Magnetic Stimulation (pp. 26-61) Cambridge University Press: Cambridge
108. Roux FE, Ibarrola D, Lazorthes Y, Berry I (2001) Chronic motor cortex stimulation for phantom limb pain: a functional magnetic resonance imaging study: technical case report. *Neurosurgery* 43(3): 681-7

109. Saitoh Y, Shibata M, Sanada Y, Mashimo T (1999) Motor cortex stimulation for phantom limb pain. *Lancet* 353:212
110. Saitoh Y, Shibata M, Hirano S, Hirata M, Mashimo T, Yoshimine T (2000) Motor cortex stimulation for central and peripheral deafferentation pain. Report of eight cases. *J Neurosurg* 92(1): 150-55
111. Saitoh Y, Osaki Y, Nishimura H, Hirano S, Kato A, Hashikawa K, Hatazawa J, Yoshimine T (2004) Increased regional cerebral blood flow in the contralateral thalamus after successful motor cortex stimulation in a patient with poststroke pain. *J Neurosurg* 100:935-39
112. Schmidt RF, Thews G (1995) *Physiologie des Menschen*. 26.Auflage, Springer:Berlin
113. Schwartzman RJ, Grothusen J, Kiefer TR, Rohr P (2001) Neuropathic Central Pain. Epidemiology, Etiology, and Treatment Options. *Arch Neurol* 58: 1547-50
114. Sherman RA, Sherman CJ, Parker L (1984) Chronic phantom and stump pain among American veterans; results of a survey. *Pain* 18:83-95
115. Sherman RA (1989) Stump and phantom limb pain. *Neurologic Clinics* 7:249:64
116. Siebner HR, Tormos JM, Ceballos-Baumann AO, Auer C, Catala MD, Conrad B, Pascual-Leone A (1999) Low-frequency repetitive transcranial magnetic stimulation of the motor cortex in writer's cramp. *Neurology* 52(3): 529-37
117. Siebner HR, Mentschel C, Auer, Conrad B (1999c) Repetitive transcranial magnetic stimulation has a beneficial effect on bradykinesia in Parkinson's disease. *Neuroreport* 10(3): 589-94
118. Strens LHA, Oliviero A, Bloem BA, Gerschlager W, Rothwell JC, Brown P (2002) The effects of subthreshold 1 Hz repetitive TMS on cortico-cortical and interhemispheric coherence. *Clin Neurophysiol* 113: 1279-85
119. Striebel HW (2001) *Therapie chronischer Schmerzen – ein praktischer Leitfaden*. 4. Auflage, Schattauer: Stuttgart
120. Summers J, Johnson S, Pridmore S, Oberoi G (2004) Changes to cold detection and pain thresholds following low and high frequency transcranial magnetic stimulation of the motor cortex. *Neurosci Lett* 368:197-200

121. Tamura Y, Okabe S, Ohnishi T, Saito ND, Arai N, Mochio S, Inoue K, Ugawa Y (2004a) Effects of 1-Hz repetitive transcranialmagnetic stimulation on acute pain induced by capsain. *Pain* 107:107-15
122. Tamura Y, Hoshiyama M, Inui K, Nakata H, Qiu Y, Ugawa Y, Inoue K, Kakigi R (2004b) Facilitation of Facilitation of A-Delta-fiber-mediated acute pain by repetitive transcranial magnetic stimulation. *Neurology* 62:2176-81
123. Tani N, Saitoh Y, Hirata M, Kato A, Yoshimine T (2004) Bilateral cortical stimulation for deafferentation pain after spinal cord injury. *J Neurosurg* 101:687-89
124. Töpper R, Foltys H, Meister IG, Sparing R, Boroojerdi B (2003) Repetitive transcranial magnetic stimulation of the parietal cortex transiently ameliorates phantom limb pain-like syndrome. *Clin Neurophysiol* 114(8):1521-30
125. Touge T, Gerschlager W, Brown P, Rothwell JC (2001) Are the after-effects of low-frequency rTMS on motor cortex excitability due to changes in the efficacy of cortical synapses? *Clin Neurophysiol* 112: 2138-45
126. Tsubokawa T, Katayama Y, Yamamoto T, Hirayamam T, Koyama S (1991) Chronic motor cortex stimulation for the treatment of central pain. *Acta Neurochir Suppl (Wien)* 52: 137-9
127. Tsubokawa T, Katayama Y, Yamamoto T, Hirayama T, Koyama S (1993) Chronic motor cortex stimulation in patients with thalamic pain. *J Neurosurg* 78: 393-401
128. Tuukka TR, Forss N, Stancak A, Hari R (2004) Modulation of motor-cortex oscillatory activity by painful A-Delta- and C-fiber stimuli. *NeuroImage* 23:569-73
129. Wassermann EM, Wedegaernter FR, Ziemann U, George MS, Chen R (1998a) Crossed reduction of human motor cortex excitability by 1-Hz transcranial magnetic stimulation. *Neurosci Lett* 250: 141-44
130. Wassermann EM (1998b) Risk and safety of repetitive transcranial magnetic stimulation: report and suggested guidelines from the International Workshop on the Safety of Repetitive Transcranial Magnetic Stimulation, June 5-7,1996 *EEG Clin Neurophysiol* 108:1-16
131. Weiss T, Miltner WH, Huonker R, Friedel R, Schmidt I, Taub E (2000) Rapid functional plasticity of the somatosensory cortex after finger amputation. *Exp Brain Res* 134(2): 199-03

132. Welker E, Soriano E, Van der Loos H (1989) Plasticity in the barrel cortex of the adult mouse: effects of peripheral deprivation on GAD-immunoreactivity. *Exp. Brain Res* 74:441-52
133. Woolf CJ, Thompson SW (1991) The induction and maintenance of central sensitization is dependent on N-methyl-D aspartic acid receptor activation; implications for the treatment of post-injury pain hypersensitivity states. *Pain* 44/3:293-99
134. Yamamoto T, Katayama Y, Hirayama T, Tsubokawa T (1997) Pharmacological classification of central post-stroke pain: comparison with the results of chronic motor cortex stimulation therapy. *Pain* 72(1-2): 5-12
135. Yarnitzky D, Barron SA Bental E (1988) Disappearance of phantom pain after focal brain infarction. *Pain* 32:285:87
136. Yarnitsky D, Sprecher E, Zaslansky R, Hemli JA (1996) Multiple session experimental pain measurement *Pain* (2-3):327-33
137. Young R (1989) in P Wall and R Melzack, Editors, *Textbook of pain*, Churchill Livingston Edinburgh pp 925-29
138. Ziemann U, Corwell B, Hallett M, Cohen LG (1998) Modulation of plasticity in human motor cortex after forearm ischemic nerve block. *J Neurosci* 18:1115-23