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Originalpublikationen

Abt D, Mordasini L, Hechelhammer L, Kessler TM, Schmid HP, Engeler DS. Prostatic artery embolization versus conventional TUR-P in the treatment of benign prostatic hyperplasia: protocol for a prospective randomized non-inferiority trial; *BMC Urol*, doi: 10.1186/1471-2490-14-94 (pubmed 25425136)

Awai L, Curt A. Intralimb coordination as a sensitive indicator of motor-control impairment after spinal cord injury; *Frontiers in Human Neuroscience*, doi: 10.3389/fnhum.2014.00148. eCollection 2014 (pubmed 24672464)

Awai L, Curt A. Preserved Sensory-Motor Function Despite Large-Scale Morphological Alterations in a Series of Patients with Holocord Syringomyelia; *J Neurotrauma*, doi: 10.1089/neu.2014.3536. Epub 2015 Jan 22. (pubmed 25219978)

Biering-Sørensen F, Bryden A, Curt A, Friden J, Harvey LA, Mulcahey MJ, Popovic MR, Prochazka A, Sinnott KA, Snoek G. International Spinal Cord Injury Upper Extremity Basic Data Set; *Spinal Cord*, doi: 10.1038/sc.2014.87. Epub 2014 Jun 3 (pubmed 24891012)

Callaghan MF, Freund P, Draganski B, Anderson E, Cappelletti M, Chowdhury R, Die-drichsen J, Fitzgerald TH, Smittenaar P, Helms G, Lutti A, Weiskopf N Widespread age-related differences in the human brain microstructure revealed by quantitative magnetic resonance imaging; *Neurobiology of aging*, doi: 10.1016/j.neurobiolaging.2014.02.008. Epub 2014 Feb 15 (pubmed 24656835)

Dietz V, Fouad K. Restoration of sensorimotor functions after spinal cord injury; *Brain*, doi: 10.1093/brain/awt262. Epub 2013 Oct 7 (pubmed 24103913)

Estévez N, Yu N, Brügger M, Villiger M, Hepp-Reymond MC, Riener R, Kollias S. A Reliability Study on Brain Activation During Active and Passive Arm Movements Supported by an MRI-Compatible Robot; *Brain Topography*, doi: 10.1007/s10548-014-0355-9. Epub 2014 Apr 10 (pubmed 24718725)

Giannarini G, Kessler TM, Roth B, Vermathen P, Thoeny HC Functional Multiparametric Magnetic Resonance Imaging of the Kidneys Using Blood Oxygen Level-Dependent and Diffusion-Weighted Sequences: a Reliable Tool for Monitoring Acute Upper Urinary Tract Obstruction; *The Journal of Urology*, doi: 10.1016/j.juro.2014.02.048. Epub 2014 Feb 25 (pubmed 24582541)

Haefeli J, Kramer JLK, Blum J, Curt A Heterotopic and homotopic nociceptive conditioning stimulation: distinct effects of pain modulation; *European Journal of Pain*, doi: 10.1002/j.1532-2149.2014.00454.x. Epub 2014 Jan 20 (pubmed 24443293)

Jaeger L, Marchal-Crespo L, Wolf P, Riener R, Michels L, Kollias S Brain activation associated with active and passive lower limb stepping; *Frontiers in Human Neuroscience*, doi: 10.3389/fnhum.2014.00828. eCollection 2014 (pubmed 25389396)

Jarrahi B, Wanek J Design of an fMRI-compatible optical touch stripe based on frustrated total internal reflection; *Conf Proc IEEE Eng Med Biol Soc.*, doi: 10.1109/EMBC.2014.6944735 (pubmed 25571103)

Kalsi-Ryan S, Beaton D, Curt A, Popovic MR, Verrier MC, Fehlings MG Outcome of the upper limb in cervical spinal cord injury: Profiles of recovery and insights for clinical studies; *The Journal of Spinal Cord Medicine*, doi: 10.1179/2045772314Y.0000000252 (pubmed 25229734)

Kessler TM, Mordasini L, Weisstanner C, Jüni P, da Costa BR, Wiest R, Thalmann GN Sono-electro-magnetic therapy for treating chronic pelvic pain syndrome in men: a randomized, placebo-controlled, double-blind trial; *PLoS one*, doi: 10.1371/journal.pone.0113368. eCollection 2014. (pubmed 25546177)

Klamroth-Marganska V., Blanco J., Campen K., Curt A., Dietz V., Ettlin T., Felder M., Fellinghauer B., Guidali M., Kollmar A., Luft A., Nef T., Schuster-Amft C., Stahel W., Riener R. Three-dimensional, task-specific robot therapy of the arm after stroke. A multicentre, parallel-group randomised trial; *The Lancet Neurology*, doi: 10.1016/S1474-4422(13)70305-3. Epub 2013 Dec 30. (pubmed 24382580)

Knüpfer SC, Liechti MD, Mordasini L, Abt D, Engeler DS, Wöllner J, Pannek J, Kiss B, Burkhard FC, Schneider MP, Miramontes E, Kessels AG, Bachmann LM, Kessler TM. Protocol for a randomized, placebo-controlled, double-blind clinical trial investigating sacral neuromodulation for neurogenic lower urinary tract dysfunction; *BMC Urology*, doi: 10.1186/1471-2490-14-65 (pubmed 25123172)

Kumru H., Schubert M., Benito J., Opisso E., Vidal J. Reappearance of sympathetic skin response below a thoracic level-9 complete spinal cord injury; *Autonomic Neuroscience: basic & clinical*, 2014 Apr;181:90-3. doi: 10.1016/j.autneu.2013.11.003 (pubmed 24359880)

Leitner L, Walter M, Freund P, Mehnert U, Michels L, Kollias S, Kessler TM. Protocol for a prospective magnetic resonance imaging study on supraspinal lower urinary tract control in healthy subjects and spinal cord injury patients undergoing intradetrusor onabotulinumtoxinA injections for treating neurogenic detrusor overactivity; *BMC Urology*, doi: 10.1186/1471-2490-14-68. (pubmed 25132340)

Marchal-Crespo L, Lopez-Oloriz J, Jaeger L, Riener R Optimizing learning of a locomotor task: Amplifying errors as needed; *Conf Proc IEEE Eng Med Biol Soc.*, doi: 10.1109/EMBC.2014.6944823 (pubmed 25571191)

Mehnert U, Kessler TM The management of urinary incontinence in the male neurological patient; *Curr Opin Urol*, 2014 Nov;24(6):586-92. (pubmed 25389549)

Mehnert U, Kessler TM The Swiss Continenence Foundation Award: Promoting the next generation in neuro-urology and functional urology; BJU int, doi: 10.1111/bju.13008 (pubmed 25441149)

Michels L, Blok BF, Gregorini F, Kurz M, Schurch B, Kessler TM, Kollias S, Mehnert U. Supraspinal Control of Urine Storage and Micturition in Men-An fMRI Study; Cerebral Cortex, 2014 Jun 26. pii: bhu140. [Epub ahead of print] (pubmed 24969474)

Mordasini L, Kessler TM, Kiss B, Schüpbach M, Pollo C, Kaelin-Lang A. Bladder function in patients with dystonia undergoing deep brain stimulation; Parkinsonism & related disorders, doi: 10.1016/j.parkreldis.2014.05.016. Epub 2014 Jun 14 (pubmed 24984838)

Nagle A, Novak D, Wolf P, Riener R. The effect of different difficulty adaptation strategies on enjoyment and performance in a serious game for memory training; Journal of Health Informatics

Nagle A, Novak D, Wolf P, Riener R. The Use of Player-centered Positive reinforcement to Schedule In-game Rewards increases Enjoyment and Performance in a Serious Game; The International Journal of Serious Games

Novak D, Beyeler B, Omlin X, Riener R Workload estimation in physical human-robot interaction using physiological measurements; Interacting with Computers

Novak D, Nagle A, Keller U, Riener R Increasing motivation in robot-aided arm rehabilitation with competitive and cooperative gameplay; Journal of Neuroengineering and Rehabilitation, doi: 10.1186/1743-0003-11-64 (pubmed 24739255)

Novak D, Riener R A survey of sensor fusion methods in wearable robotics; Robotics and autonomous systems

Peter C, Müller R, Post MW, van Leeuwen CM, Werner CS, Geyh S; SwiSCI Study Group (u.a. Schubert M, Curt A) Psychological resources, appraisals, and coping and their relationship to participation in spinal cord injury: a path analysis; Archives of physical medicine and rehabilitation, doi: 10.1016/j.apmr.2014.04.012. Epub 2014 May 2. (pubmed 24792142)

Pfeifer S, Pagel A, Riener R, Vallery H Actuator With Angle-Dependent Elasticity for Biomimetic Transfemoral Prostheses; IEEE/ASME transactions on mechatronics

Pfeifer S, Riener R, Vallery H. Knee stiffness estimation in physiological gait; Conf Proc IEEE Eng Med Biol Soc., doi: 10.1109/EMBC.2014.6943912. (pubmed 25570280)

Schneider MP, Schwab ME, Kessler TM, Anti-Nogo-A antibody: A treatment option for neurogenic lower urinary tract dysfunction?; BJU int, doi: 10.1111/bju.13007 (pubmed 25430943)

Schrafl-Altermatt M, Dietz V. Task-specific role of ipsilateral pathways: somatosensory evoked potentials during cooperative hand movements; Neuroreport., doi: 10.1097/WNR.000000000000285 (pubmed 25340563)

Schuld C, Franz S, van Hedel HJ, Moosburger J, Maier D, Abel R, van de Meent H, Curt A, Weidner N; EMSCI study group, Rupp R. International standards for neurological clas-

sification of spinal cord injury: classification skills of clinicians versus computational algorithms; *Spinal Cord*, doi: 10.1038/sc.2014.221. Epub 2014 Dec 9 (pubmed 25487243)

Starkey ML, Bleul C, Kasper H, Mosberger AC, Zörner B, Giger S, Gullo M, Buschmann F, Schwab ME High-Impact, Self-Motivated Training Within an Enriched Environment With Single Animal Tracking Dose-Dependently Promotes Motor Skill Acquisition and Functional Recovery; *Neurorehabilitation and neural repair*, 2014 Feb 11;28(6):594-605. [Epub ahead of print] (pubmed 24519022)

Starkey ML, Schwab ME How Plastic Is the Brain after a Stroke; *The Neuroscientist*, 2014 Jan 8;20(4):359-371. [Epub ahead of print] (pubmed 24402612)

Tanadini LG., Steeves JD., Hothorn T., Abel R., Maier D., Schubert M., Weidner N., Rupp R., Curt A. Identifying homogeneous subgroups in neurological disorders:Unbiased recursive partitioning in cervical complete spinal cord injury; *Neurorehabilitation and Neural Repair*, 2014 Jan 28;28(6):507-515. [Epub ahead of print] (pubmed 24477680)

Tester NJ, Fuller DD, Fromm JS, Spiess MR, Behrman AL, Mateika JH. Long-term facilitation of ventilation in humans with chronic spinal cord injury; *Am J Respir Crit Care Med*, doi: 10.1164/rccm.201305-0848OC (pubmed 24224903)

Vavasour IM, Meyers SM, Macmillan EL, Mädler B, Li DK, Rauscher A, Vertinsky T, Venu V, Mackay AL, Curt A Increased spinal cord movements in cervical spondylotic myelopathy; *The Spine Journal*, doi: 10.1016/j.spinee.2014.01.036. Epub 2014 Jan 23 (pubmed 24462810)

Velstra IM, Bolliger M, Tanadini LG, Baumberger M, Abel R, Rietman JS, Curt A. Prediction and Stratification of Upper Limb Function and Self-Care in Acute Cervical Spinal Cord Injury With the Graded Redefined Assessment of Strength, Sensibility, and Prehension (GRASSP); *Neurorehabilitation and neural repair*, doi: 10.1177/1545968314521695. Epub 2014 Feb 24 (pubmed 24566986)

Walter M, Altermatt S, Furrer C, Meyer-Heim A. Intrathecal baclofen therapy in children with acquired brain injuries after drowning: A case series; *Brain Injury*, 2015;29(1):98-103. Epub 2014 Sep 29 (pubmed 25264924)

Walter M, Michels L, Kollias S, van Kerrebroeck PE, Kessler TM, Mehnert U Protocol for a prospective neuroimaging study investigating the supraspinal control of lower urinary tract function in healthy controls and patients with non-neurogenic lower urinary tract symptoms; *BMJ Open*, doi: 10.1136/bmjopen-2013-004357 (pubmed 24848086)

Wieser K, Rahm S, Schubert M, Fischer MA, Farshad M, Gerber C, Meyer DC Fluoroscopic, magnetic resonance imaging, and electrophysiologic assessment of shoulders with massive tears of the rotator cuff; *J Shoulder Elbow Surg.*, doi: 10.1016/j.jse.2014.05.026. Epub 2014 Aug 29 (pubmed 25179370)

Wieser M, Gisler S, Sarabadani A, Ruest RM, Buetler L, Vallery H, Klamroth-Marganska V, Hund-Georgiadis M, Felder M, Schoenberger JL, Gutknecht C, Riener R Cardiovascular control and stabilization via inclination and mobilization during bed rest; *Medical & biological engineering and computing*, doi: 10.1007/s11517-013-1119-5. Epub 2013 Oct 7 (pubmed 24096595)

Wirz M, Dietz V Recovery of sensorimotor function and activities of daily living after cervical spinal cord injury: the influence of age; *Journal of Neurotrauma*, doi: 10.1089/neu.2014.3335. Epub 2014 Oct 21 (pubmed 24963966)

Wolf P, Novak D, Klamroth-Maganska V, Riener R Roboterunterstützte RehaGames. Erfahrungen und Perspektiven; *Neurologie & Rehabilitation, Neurol Rehabil* 2014; 20 (4): 207-214

Zörner B, Bachmann LC, Filli L, Kapitza S, Gullo M, Bolliger M, Starkey ML, Röthlisberger M, Gonzenbach RR, Schwab ME, Chasing central nervous system plasticity: the brain-stem's contribution to locomotor recovery in rats with spinal cord injury; *Brain: a journal of neurology*, doi: 10.1093/brain/awu078. Epub 2014 Apr 15 (pubmed 24736305)

Reviews

Wu X, Liu J, Tanadini LG, Lammertse DP, Blight AR, Kramer JL, Scivoletto G, Jones L, Kirshblum S, Abel R, Fawcett J, Field-Fote E, Guest J, Levinson B, Maier D, Tansey K, Weidner N, Tetzlaff WG, Hothorn T, Curt A, Steeves JD Challenges for defining minimal clinically important difference (MCID) after spinal cord injury; *Spinal Cord*, doi: 10.1038/sc.2014.232. Epub 2014 Dec 16 (pubmed 25510192)

Kongressbeiträge (Proceedings)

Bontrager, David; Novak, Domen; Zimmermann, Raphael; Riener, Robert; Marchal-Crespo, Laura Physiological Noise Cancellation in fNIRS using an Adaptive Filter Based on Mutual Information; 2014 IEEE International Conference on Systems, Man, and Cybernetics (IEEE SMC), IEEE International Conference on Systems, Man, and Cybernetics, IEEE SMC 2014, San Diego, CA, USA

Keller U., Riener R. Design of the Pediatric Arm Rehabilitation Robot ChARMin; 5th IEEE RAS & EMBS International Conference on Biomedical Robotics and Biomechatronics

Marchal-Crespo L, Lopez-Oloriz J, Jaeger L, Riener R Optimizing Learning of a Locomotor Task. Amplifying Errors As Needed; 36th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC 2, Chicago, IL, USA)

Marchal-Crespo L, Van Mark R, Rauter G, Wolf P, Riener R The Learning Benefits of Haptic Guidance are Age-Dependent; Replace, Repair, Restore, Relieve - Bridging Clinical and Engineering Solutions in Neurorehabilitation: Proceedings of the 2nd International Conference on NeuroRehabilitation (ICNR2014), Aalborg / Dänemark

Novak D, Nagle A, Riener R Can Two-Player Games Increase Motivation in Rehabilitation Robotics?; HRI'14: HRI'14: proceedings of the 2014 ACM/IEEE International Conference on Human-Robot Interaction , Bielefeld / Germany

Book Chapters

Curt A (Freund P, Kramer J) Traumatic spinal cord injury: Chronic SCI and recovery; book chapter in: Quantitative techniques for MRI of the human spinal cord

Curt A Klinische Psychologie; book chapter in DMGP 2014

Curt A Traumatic Spinal Cord Injury: Chronic Spinal Cord Injury and Recovery. book chapter in: "Quantitative Biomarkers in the spinal cord" (Eds Cohen Adad and C Wheeler-Kingshott's)

Dietz V. Anwendung von Robotern in der Neurorehabilitation; Klinische Psychologie bei Querschnittlähmung, Springer/Heidelberg

Dietz V. Gait disorders and rehabilitation; Textbook of Neural Repair and Rehabilitation: Volume 2, Medical Neurorehabilitation

Dietz V., Hubli M Spinal neuronal dysfunction after deprivation of supraspinal input; Oxford Textbook of Neurorehabilitation

Dietz V., Sinkjaer T Secondary changes after CNS damage: The significance of spastic muscle tone in rehabilitation; Oxford Textbook of Neurorehabilitation

Jessberger S., Curt A., Barker R. Stem cell application in neurorehabilitation; book chapter in SECTION III. Neuroplasticity and repair in Oxford Textbooks (Ed. V Dietz and N Ward)

Luft A, Curt A, Dietz V Neurorehabilitation; Leitlinien Klinische Neurophysiologie

Riener R Rehabilitation robotics (Foundations and Trends in Robotics); Book: now publishers Inc (28. Januar 2014; ISBN 978-1601987402

Wirz M, Dietz V Die Querschnittlähmung, Grundlagen (Definition und Ursachen Querschnittlähmung). In: Strubreither/Neikes/Stirnemann/Eisenhuth/Schulz/Lude: Klinische Psychologie bei Querschnittlähmung. Verlag Springer

Wirz M, Rutz-La Pitz The influence of age on neurorehabilitation; book chapter in: Neurorehabilitation. Oxford Textbook of Clinical Neurology. Editor: V. Dietz, N. Ward