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Scientific Publications

Most studies are hyperlinked to the official PubMed abstracts. To access the PubMed abstracts click on the study titles.

A1 Validity / Reliability / Objectivity

A1.15	Ruthard, K., Raabe-Oetker, A., Ruthard, J., Oppermann, T., Duran, I., & Schönau, E. **Reliability of a radiation-free, noninvasive and computer-assisted assessment of the spine in children with cerebral palsy.** *European Spine Journal, 29(5), 937–942.,* ***2020***
A1.14	A Livanelioglu, F Kaya, V Nabiyev, G Demirkiran, T Fırat **The validity and reliability of "Spinal Mouse" assessment of spinal curvatures in the frontal plane in pediatric adolescent idiopathic thoraco-lumbar curves** Department of Physiotherapy and Rehabilitation, Faculty of Health Science, Hacettepe University, Ankara, Turkey *Eur Spine J, [Epub ahead of print] Apr 22,* ***2015***
A1.13	A Topalidou, G Tzagarakis, X Souvatzis, G Kontakis, P Katonis **Evaluation of the reliability of a new non-invasive method for assessing the functionality and mobility of the spine** Department of Anaesthesiology, University Hospital of Heraklion, Crete, Greece *Acta Bioeng Biomech, 16 (1):117-24,* ***2014***
A1.12	E Barrett, K McCreesh, J Lewis **Reliability and validity of non-radiographic methods of thoracic kyphosis measurement: A systematic review** Department of Clinical Therapies, Faculty of Education and Health Sciences, University of Limerick, Limerick, Ireland *Manual Therapy, 19 (1):10-7,* ***2014***
A1.11	BS Russel, KA Muhlenkamp, KT Hoiriis, CM Desimone **Measurement of lumbar lordosis in static standing posture with and without high heeled shoes** Office of Sponsored Research and Scholarly Activity, Life University, Marietta, GA, USA *J Chiropr Med, 11 (3):145-59,* ***2012***
A1.10	E Kellis, G Adamou, G Tzilios, M Emmanouilidou **Reliability of spinal range of motion in healthy boys using a skin-surface device** Physical Education and Sports and Sciences at Serres, Aristotle University Thessaloniki, Serres, Greece *J Manipulativ Physiol Ther, 31: 570 – 576,* ***2008***
A1.09	M Guermazi, S Ghroubi, M Kassis, O Jaziri, H Keskes, W Kessomtini, I Ben Hammouda, MH Elleuch Article in French **Validity and reliability of Spinal Mouse to assess lumbar flexion** Service de Médicine Physique et Réadaptation fonctionnelle de l'Hôpital Habib-Bourguiba, Université du Sud, Sfax, Tunisie *Ann Readapt Phys, 49 (4): 172 – 177,* ***2006***

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A1.08	RB Post, VJM Leferink **Spinal mobility: sagittal range of motion measured with the SpinalMouse, a new non-invasive device** Department of Surgery, University Hospital Groningen, Netherlands *Arch Orthop Trauma Surg, 124: 187 – 192,* ***2004***
A1.07	AF Mannion, K Knecht, G Balaban, J Dvorak, D Grob **A new skin-surface device for measuring the curvature and global and segmental ranges of motion of the spine: reliability of measurements and comparison with the data reviewed from the literature** Institute of Physical Medicine and Rehabilitation, University Hospital Zurich, Switzerland *Eur Spine J, 13 (2):122 – 136,* ***2004***
A1.06	E Bistritschan, S Delank, G Winnekendonk, P Eysel Article in German **Oberflächenmessverfahren (MediMouse) versus Röntgenfunktionsaufnahmen zur Beurteilung der lumbalen Wirbelsäulenbeweglichkeit** Klinik und Poliklinik für Orthopädie, Klinik der Universität Köln, Germany *Orthopädie, 141 (S1),* ***2003***
A1.05	S Keller, AF Mannion, D Grob **Reliability of a new measuring device („spinalmouse“) in recording the sagittal profile of the back** Schulthess Clinic, Zurich, Switzerland *Eur Spine J, 9 (4),* ***2000***
A1.04	RK Meier, D Gutensohn, R Dracheneder, N Seichert Article in German **Objektive Evaluation der Rückenform und Veranschaulichung der WS-Aufrichtung im Rahmen der Patientenschulung** Orthopädische Abteilung der Bad Colberg Kliniken, Bad Colberg, Germany *Phys Med Rehab Kuror, 10 (4),* ***2000***
A1.03	S Steinbeis, G Stucki Article in German **Alters- und geschlechtsspezifische Normwerte von Rückenform und – beweglichkeit gemessen mit der Rückenmaus** Medizinische Fakultät der Ludwig-Maximilians-Universität München, Germany *Dissertation,* ***1999***
A1.02	N Seichert **Measurement of shape and mobility of the spinal column: Validation of the SpinalMouse® by comparison with functional radiographs** Ludwig-Maximilians-Universität München, Germany *Summary of dissertation of S Schulz,* ***1999***

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A1.01	S Schultz, E Senn, G Stucki Article in German **Messung von Form und Beweglichkeit der Wirbelsäule: Validierung der „Rückenmaus“ durch Vergleich mit Röntgen-Funktionsaufnahmen** Medizinische Fakultät der Ludwig-Maximilians-Universität München, Germany *Dissertation,* ***1999***
A1.00	N Seichert, M Baumann, E Senn, H Zuckriegl Article in German **Die Rückenmaus – Ein analog digitales Messgerät zur Erfassung der sagittalen Rückenkontur** Klinik für Physikalische Medizin und Rehabilitation der Ludwig-Maximilians-Universität München, Germany *Phys Rehab Kur Med 4: 35 – 43,* ***1994***

A2 Clinical applications

A2.35	Taniguchi, M., Ikezoe, T., Masaki, M., Kamitani, T., Tsuboyama, T., Ito, H., Matsuda, S., Tabara, Y., Matsuda, F., Ichihashi, N., & Nagahama Study group, T. **Coexistence of low back pain and lumbar kyphosis is associated with increased functional disability in knee osteoarthritis: the Nagahama Study**. *Arthritis Care & Research.* ***2021***
A2.34	Csuhai, É. A., Nagy, A. C., Váradi, Z., & Veres-Balajti, I. **Functional analysis of the spine with the idiag spinalmouse system among sedentary workers affected by non-specific low back pain.** *International Journal of Environmental Research and Public Health, 17(24), 1–14.* ***2020***
A2.33	Tabara, Y., Masaki, M., Ikezoe, T., Setoh, K., Kato, T., Kawaguchi, T., Kosugi, S., Nakayama, T., Ichihashi, N., Tsuboyama, T., & Matsuda, F. **Small Degree of Lumbar Lordosis as an Overlooked Determinant for Orthostatic Increases in Blood Pressure in the Elderly: The Nagahama Study.** *American Journal of Hypertension, 32(1), 61–69.* ***2019***
A2.32	Masaki, M., Ikezoe, T., Yanase, K., Ji, X., Umehara, J., Aoyama, J., Minami, S., Fukumoto, Y., Watanabe, Y., Kimura, M., & Ichihashi, N. **Association of Pain History and Current Pain with Sagittal Spinal Alignment and Muscle Stiffness and Muscle Mass of the Back Muscles in Middle-aged and Elderly Women.** *Clinical Spine Surgery, 32(7), E346–E352.* ***2019***
A2.31	A Muramoto, S Imagama, Z Ito, K Hirano, N Ishiguro, Y Hasegawa

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	Spinal sagittal balance substantially influences locomotive syndrome and physical performance in community-living middle-aged and elderly women. Department of Spine Surgery, Kariya Toyota General Hospital, Japan. Department of Orthopaedic Surgery, Nagoya University Graduate School of Medicine, Japan. *J Orthop Sci, [Epub ahead of print], Jan 21,* ***2016***
A2.30	K Imhof, O Faude, V Strebel, L Donath, R Roth, L Zahner **Examining the Association between Physical Fitness, Spinal Flexibility, Spinal Posture and Reported Back Pain in 6 To 8 Year Old Children** Department of Sport, Exercise and Health, Medical Faculty, University of Basel, Switzerland *J Nov Physiother,5:5,* ***2015***
A2.29	K Imhof, O Faude, L Donath, S Bean-Eisenhut, H Hanssen, L Zahner **The association of socio-economic factors with physical fitness and activity behaviours, spinal posture and retinal vessel parameters in first graders in urban Switzerland.** Department of Sport, Exercise and Health, Medical Faculty, University of Basel, Switzerland *J Sports Sci, 7:1-10,* ***2015***
A2.28	YD Kim, KB Lee, DG Lee **Alterations of spinal range of motion while sitting in hemiplegic patients with or without gait available** Department of Orthopaedic Surgery, Nagoya University, Graduate School of Medicine, Japan *J. Phys. Ther. Sci. 27: 2981-83,* ***2015***

A2.27	A Topalidou, G Tzagarakis, K Balais, K Ziogas, A Papaioannou **Sagittal and Frontal Plane Evaluation of the Whole Spine and Clinical Outcomes after Vertebral Fractures** Faculty of Medicine, Department of Orthopaedics and Traumatology, University Hospital of Heraklion, University of Crete, Greece *Adv Orthop [Epub ahead of print],* ***2015***
A2.26	R Tauchi, S Imagama, A Muramoto, M Tsuboi, N Ishiguro, Y Hasegawa **Influence of spinal imbalance on knee osteoarthritis in community-living elderly adults** Department of Orthopaedic Surgery, Nagoya University, Graduate School of Medicine, Japan *Nagoya J. Med. Sci 77: 329-37,* ***2015***
A2.25	M Masaki, T Ikezoe, Y Fukumoto, S Minami, J Aoyama, S Ibuki, M Kimura, N Ichihashi **Association of walking speed with sagittal spinal alignment, muscle thickness, and echo intensity of lumbar back muscles in middle-aged and elderly women** Department of Physical Therapy, Human Health Sciences, Graduate School of Medicine, Kyoto University, Japan *Aging Clin Exp Res [Epub ahead of print],* ***2015***
A2.24	JO Yoon, MH Kang, JS Kim, JS Oh **The effects of gait with use of smartphone on repositioning error and curvature of the lumbar spine** Department of Physical Therapy, Graduate School, Inje University, Republic of Korea *J Phys Ther Sci 27: 2507-08,* ***2015***

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A2.23	YD Kim, KB Lee, HL Roh **Immediate effects of the activation of the affected lower limb on the balance and trunk mobility of hemiplegic stroke patients** Human Movement Research, Republic of Korea, Department of Rehabilitation Medicine, St. Vincent's Hospital, Republic of Korea *J Phys Ther Sci 27: 1555-57,* ***2015***
A2.22	M Masakia, T Ikezoea, Y Fukumotob, S Minamic, R Tsukagoshid, K Sakumaa, S Ibukia, Y Yamadaf, M Kimurag, N Ichihashia **Association of sagittal spinal alignment with thickness and echo intensity of lumbar back muscles in middle-aged and elderly women** Department of Physical Therapy, Human Health Sciences, Graduate School of Medicine, Kyoto University, Kyoto, Japan *Arch Gerontol Geriatr 61, 197-201,* ***2015***
A2.21	F Benninger, A Khlebtovsky, Y Roditi, O Keret, I Steiner, E Melamed, R Djaldetti **Beneficial effect of levodopa therapy on stooped posture in Parkinson's disease** Department of Neurology, Rabin Medical Center, Beilinson Hospital, Petach Tikva, Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel *Gait Posture 42, 263-68,* ***2015***

A2.20	YD Kim **Effects of activation of the foot on trunk mobility of patients with hemiplegia** Human Movement Research, Wolpyeong-dong, Daejeon, Republic of Korea *J Phys Ther Sci 27: 1079-82,* ***2015***
A2.19	B Wirt, M Amstalden, M Perk, U Boutellier, BK Humphreys **Respiratory Dysfunction in patients with chronic neck pain – influence of thoracic spine and chest mobility** Institute for Human Movement Sciences and Sports, Department of Health Sciences and Technology, ETH Zurich, Switzerland *Manual Therapy 19(5): 440-4,* ***2014***
A2.18	H Obayashi, Y Urabe, Yamanaka, R Okuma **Effects of Respiratory-Muscle Exercise on Spinal Curvature** Graduate School of Health Science, Hiroshima University, Hiroshima, Japan *J Sport Rehabil. 2012 Feb; 21:63-8*
A2.17	G Battaglia, M Bellafiore, G Caramazza, A Paoli, A Bianco, A Palma **Changes in spinal range of motion after a flexibility training program in elderly women** *Department of Law, Society and Sport Sciences, Via Eleonora Duse 2,90146 Palermo, Italy* *Clin Interv Aging, 9:653-60,* ***2014***
A2.16	T Terai, H Yamada, K Asano, A Nawata, T Iwasaki, T Henmi, K Sairyo **Effectiveness of three types of lumbar orthosis for restricting extension motion** Department of Orthopedic Surgery, Tokushima Prefecture Naruto Hospital, 32 Kotani Kurosaki Muya-cho Naruto, Tokushima, 772-8503, Japan *Eur J Orthop Surg Traumatol 24, 239-43,* ***2014***

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A2.15	JM Muyor, E Zemková, G Stefániková, M Kotyra **Concurrent Validity of Clinical Tests for Measuring Hamstring Flexibility in School Age Children** Faculty of Education Sciences, Nursing and Physiotherapy, Laboratory of Kinesiology, Biomechanics and Ergonomics (KIBIOMER), University of Almería, Almería, Spain *Int J Sports Med 35, 664-9,* ***2014***
A2.14	JM Muyor, E Sánchez-Sánchez, D Sanz-Rivas, PA López-Miñarro **Sagittal Spinal Morphology in Highly Trained Adolescent Tennis Players** Faculty of Education Sciences, Nursing and Physiotherapy, Laboratory of Kinesiology, Biomechanics and Ergonomics (KIBIOMER), University of Almería, Almería, Spain *J Sports Sci Med, 12 (3): 588-93,* ***2013***
A2.13	D Tsunoda, Y Iizuka, H Iizuka, M Nishinome, R Kobayashi, T Ara, A Yamamoto, K Takagishi **Associations between neck and shoulder pain (called *katakori* in Japanese) and sagittal spinal alignment parameters among the general population** Department of Orthopaedic Surgery, Gunma University Graduate School of Medicine, 3-39-22 Showa, Maebashi, Gunma 371-8511, Japan *J Orthop Sci,18 (2): 216-19,* ***2013***

A2.12	PA López-Miñarro, JM Muyor, F Belmonte, F Alacid **Acute effects of hamstring stretching on sagittal spinal curvatures and pelvic tilt** Department of Physical Education, University of Murcia, Spain *J Hum Kin, 31: 69-78,* ***2012***
A2.11	S Watanabe, K Kobara, H Ishida, A Eguchi **Influence of trunk muscle co-contraction on spinal curvature during sitting cross-legged** Department of Rehabilitation, Faculty of Health Science and Technology, Kawasaki, Japan *Electromyogr Clin Neurophysiol, 50: 187-192,* ***2010***
A2.10	I Bautmans, J Van Arken, M Van Mackelenberg, T Mets **Rehabilitation using manual mobilization for thoracic kyphosis in elderly postmenopausal patients with osteoporosis** Frailty in Ageing Research Department, Vrije Universiteit Brussel, Belgium Geriatrics, Universitair Ziekenhuis, Brussel, Belgium *J Rehabil Med, 42: 129 – 135,* ***2010***
A2.09	Y Takihara, Y Urabe, GA Nishiwaki, K Tanaka, K Miyashita **How back-muscle fatigue influences lumbar curvature** Health Science Department, Hiroshima University, Hiroshima, Japan *J Sport Rehabil, 18: 327 – 336,* ***2009***
A2.08	R Chou, R Fu, JA Carrino, RA Deyo **Imaging strategies for low-back pain: systematic review and meta-analysis** Oregon, Health and Science University, Portland, USA *Lancet, 373: 463 – 472,* ***2009***

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Scientific Publications

A2.07	H Ishida, S Watanabe, H Yanagawa, M Kawasaki, Y Kobayashi, Y Amano **Immediate effects of a rucksack type orthosis on the elderly with decreased lumbar lordosis during standing and walking** Department of Rehabilitation, Shukumo Clinic, Okayama, Japan *Electromyogr Clin Neurophysiol, 48:: 53 – 61,* ***2008***
A2.06	G Verheyden, A Nieuwboer **An exploratory study of trunk impairment in people with Parkinson's disease** School of Health Sciences, University Southampton, United Kingdom *Poster (unpublished)* ***2007***
A2.05	S Watanabe, A Eguchi, K Kobara, H Ishida **Influence of trunk muscle co-contraction on spinal curvature during sitting for desk work** Department of Rehabilitation, Faculty of Health Science and Technology, Kawasaki, Japan *Electromyogr Clin Neurophysiol, 47: 273 – 278,* ***2007***
A2.04	N Miyakoshi, M Hongo, S Maekawa, Y Ishikawa, Y Shimada, E Itoi **Back extensor strength and lumbar spinal mobility are predictors of QOL in patients with postmenopausal osteoporosis** Division of Orthopedic Surgery, Akita University School of Medicine, Akita, Japan *Osteoporos Int, 18: 1397 – 1403,* ***2007***
A2.03	N Miyakoshi, M Hongo, S Maekawa, Y Ishikawa, Y Shimada, K Okada, E Itoi **Factors related to spinal mobility in patients with postmenopausal osteoporosis** Department of Orthopedic Surgery, Akita University School of Medicine, Akita, Japan *Osteoporos Int, 16: 1871 – 1874,* ***2005***
A2.02	AF Mannion, J Dvorak, M Müntener, D Grob **A prospective study of the interrelationship between subjective and objective measures of disability before and 2 months after lumbar decompression surgery for disc herniation** Schulthess Clinic Zurich, Switzerland *Eur Spine J, 14: 454 – 465,* ***2005***
A2.01	RB Post, VJM Leferink **Sagittal range of motion after a spinal fracture: does ROM correlate with functional outcome?** Department of Surgery, University Hospital Groningen, Netherlands *Eur Spine J, 13: 489 – 494,* ***2004***
A2.00	EM Liebig, R Kothe, AF Mannion, D Grob **The clinical significance of the lumbar lordosis: relationship between lumbar spinal curvature and low back pain** Schulthess Clinic, Zurich, Switzerland *Eur Spine J, 9: 286,* ***2000***

Scientific Publications

A3 Master thesis / practical experiences

A3.02	J Piper, B Wollesen, K Mattes Report in German **Entwicklung eines mobile Rücken-Screenings für Personen an Büro- und Bildschirmarbeitsplätzen zum Einsatz in der Betrieblichen Gesundheitsförderung** *Abteilung für Bewegungs- und Trainingswissenschaft, Fakultät für Erziehungswissenschaft, Psychologie und Bewegungswissenschaft, Universität Hamburg, Germany* *Prävention und Rehabilitation, 4: 173-84,* ***2011***
A3.01	M Thuma Report in German **Von der Bedeutung gesundheitspräventiver Massnahmen für Wiener Volksschulkinder, vor allem statisch und dynamische Haltung bzw. Motorik betreffend** [Anm: inkl. Normwerterfassung von Kindern] *Body & Health Academy, Vienna, Austria* *Master Thesis,* ***2007***
A3.00	A Clemens Report in German **Untersuchung der Effektivität eines propriozeptiven Trainingsprogramms im Bäckerhandwerk** *BSA-Private Berufsakademie, Hermann Neuberger Sportschule, Saarbruecken, Germany* *Master Thesis,* ***2007***

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