

- Aagaard P, Simonsen EB, Magnusson SP, Larsson B, Dyhre-Poulsen P. A new concept for isokinetic hamstring: quadriceps muscle strength ratio. *Am J Sports Med.* 1998;26(2):231-7.
- Abbott JH, Chapple CM, Fitzgerald GK, et al. The Incremental Effects of Manual Therapy or Booster Sessions in Addition to Exercise Therapy for Knee Osteoarthritis: A Randomized Clinical Trial. *J Orthop Sports Phys Ther.* 2015 Sep 28:1-9.
- Abbott JH, Robertson MC, Chapple C, Pinto D, Wright AA, et al. Manual therapy, exercise therapy, or both, in addition to usual care, for osteoarthritis of the hip or knee: a randomized controlled trial. 1: clinical effectiveness. *Osteoarthritis Cartilage.* 2013 Apr;21(4):525-34.
- Abdel-aziem AA, Draz AH. Chronic ankle instability alters eccentric eversion/inversion and dorsiflexion/plantarflexion ratio. *J Back Musculoskelet Rehabil.* 2014;27(1):47-53.
- Abe T, Kearns C, Fukunaga T. Sex differences in whole body skeletal muscle mass measured by magnetic resonance imaging and its distribution in young Japanese adults. *Br J Sports Med.* 2003; 37(5): 436-440.
- Abiko T, Shimamura R, Ogawa D, et al. Difference in the Electromyographic Onset of the Deep and Superficial Multifidus during Shoulder Movement while Standing. Sueur C, ed. *PLoS ONE.* 2015;10(4):e0122303.
- Ackland DC, Pak P, Richardson M, Pandy MG. Moment arms of the muscles crossing the anatomical shoulder. *J Anat.* 2008 Oct;213(4):383-90.
- Adams T, Band-Entrup D, Kuhn S, Legere L, Mace K, Paggi A, Penney M. Physical therapy management of knee osteoarthritis in the middle-aged athlete. *Sports Med Arthrosc.* 2013 Mar;21(1):2-10. doi: 10.1097/JSA.0b013e318272f530.
- Aerts F, Carrier K, Alwood B. Inter-rater Reliability of Sustained Aberrant Movement Patterns as a Clinical Assessment of Muscular Fatigue. *The Open Orthopaedics Journal,* 2016, 10, 125-134.
- Aerts F, Carrier K. Interrater Reliability of Sustained Aberrant Movement Patterns as a Clinical Assessment of Muscular Fatigue. Berrien Springs, MI: Andrews University; 2012. Thesis.
- Aerts F. Quantification of the Strength-Endurance Continuum. Berrien Springs, MI: Andrews University; 2012. Literature Review.
- Agre JC, Magness JL, Hull SZ, et al. Strength testing with a portable dynamometer: reliability for upper and lower extremities. *Arch Phys Med Rehabil.* 1987 Jul;68(7):454-8.
- Alfredson H, Lorentzon R. Chronic Achilles tendinosis: recommendations for treatment and prevention. *Sports Med.* 2000 Feb;29(2):135-46.
- Allen KD, Bongiorno D, Bosworth HB, Coffman CJ, Datta SK, et al. Group Versus Individual Physical Therapy for Veterans With Knee Osteoarthritis: Randomized Clinical Trial. *Phys Ther.* 2016 May;96(5):597-608. doi: 10.2522/ptj.20150194.
- Allen, K., Bongiorno, D., Bosworth, H., Coffman, C, Datta, S et al. Group Versus Individual Physical Therapy for Veterans With Knee Osteoarthritis: Randomized Clinical Trial. *Physical Therapy.* 2016: 96(5), 597-608
- Allison K, Wrigley TV, Vicenzino B, Bennell KL, Grimaldi A, Hodges PW. Kinematics and kinetics during walking in individuals with gluteal tendinopathy. *Clin Biomech (Bristol, Avon).* 2016 Feb;32:56-63.
- Al-Mulla MR, Sepulveda F, Colley M. A Review of Non-Invasive Techniques to Detect and Predict Localized Muscle Fatigue. *Sensors (Basel, Switzerland).* 2011;11(4):3545-3594. doi:10.3390/s110403545.
- Alrwaily M, Timko M, Schneider M, et al. Treatment-Based Classification System for Low Back Pain: Revision and Update. *Phys Ther.* 2016 Jul;96(7):1057-66.
- Alta TDW, Veeger HEJ, Janssen TWJ, Willems WJ. Are Shoulders with A Reverse Shoulder Prosthesis Strong Enough? A Pilot Study. *Clinical Orthopaedics and Related Research.* 2012;470(8):2185-2192.
- Altman E. The ulnar side of the wrist: Clinically relevant anatomy and biomechanics. *J Hand Ther.* 2016 Apr-Jun;29(2):111-22.
- American College of Sports Medicine. American College of Sports Medicine position stand. Progression models in resistance training for healthy adults. *Med Sci Sports Exerc.* 2009;41(3):687-708.
- American Physical Therapy Association. *Guide to Physical Therapy Practice.* 2nd edition. *Phys Ther.* 2002; 81(1): 9-744.
- Andarawis-Puri N, Kuntz AF, Kim S-Y, Soslowsky LJ. Effect of Anterior Supraspinatus Tendon Partial-Thickness tears on Infraspinatus Tendon Strain through a Range of Joint Rotation Angles. *Journal of shoulder and elbow surgery / American Shoulder and Elbow Surgeons . [et al].* 2010;19(4):617-623.
- Andersen CH, Andersen LL, Pedersen MT, et al. Dose-response of strengthening exercise for treatment of severe neck pain in women. *J Strength Cond Res.* 2013 Dec;27(12):3322-8.
- Andersen LL, Andersen CH, Skotte JH, et al. High-Intensity Strength Training Improves Function of Chronically Painful Muscles: Case-Control and RCT Studies. *BioMed Research International.* 2014;2014:187324. doi:10.1155/2014/187324.
- Andersen P, Saltin B. Maximal perfusion of skeletal muscle in man. *J Physiol.* 1985 Sep;366:233-49.
- Anderson VB. The intra-rater reliability of measured thoracic spine mobility in chronic rotator cuff pathology. *J Musculoskelet Neuronal Interact.* 2011 Dec;11(4):314-9.

- Andrade MS, Fleury AM, de Lira CA, Dubas JP, da Silva AC. Profile of isokinetic eccentric-to-concentric strength ratios of shoulder rotator muscles in elite female team handball players. *J Sports Sci.* 2010 May;28(7):743-9.
- Andrews AW, Thomas MW, Bohannon RW. Normative values for isometric muscle force measurements obtained with hand-held dynamometers. *Phys Ther.* 1996 Mar;76(3):248-59.
- Andrews M, Noyes FR, Hewett TE, Andriacchi TP. Lower limb alignment and foot angle are related to stance phase knee adduction in normal subjects: a critical analysis of the reliability of gait analysis data. *J Orthop Res.* 1996 Mar;14(2):289-95.
- Anwer S, Alghadir A, Zafar H, Brismée JM. Effects of orthopaedic manual therapy in knee osteoarthritis: a systematic review and meta-analysis. *Physiotherapy.* 2018 Sep;104(3):264-276.
- Apostolopoulos N, Metsios GS, Flouris AD, Koutedakis Y, Wyon MA. The relevance of stretch intensity and position—a systematic review. *Frontiers in Psychology.* 2015;6:1128. doi:10.3389/fpsyg.2015.01128.
- Arbanas J, Starcevic Klasan G, Nikolic M, Jerkovic R, Miljanovic I, Malnar D. Fibre type composition of the human psoas major muscle with regard to the level of its origin. *Journal of Anatomy.* 2009;215(6):636-641.
- Artz NJ, Adams MA, Dolan P. Sensorimotor function of the cervical spine in healthy volunteers. *Clinical Biomechanics (Bristol, Avon).* 2015;30(3):260-268.
- Asklung CM1, Tengvar M, Tarassova O, Thorstensson A. Acute hamstring injuries in Swedish elite sprinters and jumpers: a prospective randomised controlled clinical trial comparing two rehabilitation protocols. *Br J Sports Med.* 2014 Apr;48(7):532-9. doi: 10.1136/bjsports-2013-093214.
- Asmussen E. Muscle fatigue. June 1979. *Med Sci Sports Exerc.* 1993 Apr;25(4):411-20.
- Astrand P. *Textbook of Work Physiology Physiological Basis of Exercise* 4th ed. McGraw-Hill. USA. 2003
- Aure OF, Nilsen JH, Vasseljen O. Manual Therapy and Exercise Therapy in Patients with Chronic Low Back Pain: A Randomized, Controlled Trial With 1-Year Follow-up. *Spine.* 2003;28:525–532.
- Azadina F, Kamyab M, Behtash H, Saleh Ganjavian M, Javaheri MR. The Validity and Reliability of Non-invasive Methods for Measuring Kyphosis. *J Spinal Disord Tech.* 2013 Nov 4.
- Backstrom KM. Mobilization with movement as an adjunct intervention in a patient with complicated de Quervain's tenosynovitis: a case report. *J Orthop Sports Phys Ther.* 2002 Mar;32(3):86-94; discussion 94-7.
- Balke M, Schmidt C, Dedy N, Banerjee M, Bouillon B, Liem D. Correlation of acromial morphology with impingement syndrome and rotator cuff tears. *Acta Orthop.* 2013 Apr;84(2):178-83.
- Bandy WD1, Irion JM, Briggler M. The effect of time and frequency of static stretching on flexibility of the hamstring muscles. *Phys Ther.* 1997 Oct;77(10):1090-6.
- Barela AMF, de Freitas PB, Celestino ML, Camargo MR, Barela JA. Ground reaction forces during level ground walking with body weight unloading. *Brazilian Journal of Physical Therapy.* 2014;18(6):572-579. doi:10.1590/bjpt-rbf.2014.0058.
- Barnett ML, Ross D, Schmidt RA, Todd B. Motor skills learning and the specificity of training principle. *Res Q.* 1973 Dec;44(4):440-7.
- Bastick AN, Belo JN, Runhaar J, Bierma-Zeinstra SMA. What Are the Prognostic Factors for Radiographic Progression of Knee Osteoarthritis? A Meta-analysis. *Clinical Orthopaedics and Related Research.* 2015;473(9):2969-2989.
- Beazell JR, Mullins M, Grindstaff TL. Lumbar instability: an evolving and challenging concept. *J Man Manip Ther.* 2010;18(1):9-14.
- Benedetti F, Carlino E, Pollo A. How Placebos Change the Patient's Brain. *Neuropsychopharmacology.* 2011;36(1):339-354. doi:10.1038/npp.2010.81.
- Bennell KL, Buchbinder R, Hinman RS. Physical therapies in the management of osteoarthritis: current state of the evidence. *Curr Opin Rheumatol.* 2015 May;27(3):304-11.
- Berger RA. The anatomy and basic biomechanics of the wrist joint. *J Hand Ther.* 1996 Apr-Jun;9(2):84-93.
- Bertocci GE, Munin MC, Frost KL, Burdett R, Wassinger CA, Fitzgerald SG: Isokinetic performance after total hip replacement. *Am J Phys Med Rehabil.* 2004; 83:1–9.
- Bertozzi L, Gardenghi I, Turoni F, et al. Effect of therapeutic exercise on pain and disability in the management of chronic nonspecific neck pain: systematic review and meta-analysis of randomized trials. *Phys Ther.* 2013 Aug;93(8):1026-36.
- Beunen GP, Thomis MA, Peeters MW. Genetic Variation in Physical Performance. *The Open Sports Sciences Journal.* 2010; 3; 77-80.
- Bhadauria EA, Gurudut P. Comparative effectiveness of lumbar stabilization, dynamic strengthening, and Pilates on chronic low back pain: randomized clinical trial. *J Exerc Rehabil.* 2017;13(4):477-485. Published 2017 Aug 29.
- Biggs A, Jenkins WL, Urch SE, Shelbourne KD. Rehabilitation for Patients Following ACL Reconstruction: A Knee Symmetry Model. *North American Journal of Sports Physical Therapy : NAJSPT.* 2009;4(1):2-12.

- Biggs A, Shelbourne KD. Use of Knee Extension Device During Rehabilitation of a Patient with Type 3 Arthrofibrosis after ACL Reconstruction. *North American Journal of Sports Physical Therapy : NAJSPT*. 2006;1(3):124-131.
- Bigland-Ritchie B, Woods JJ. Changes in muscle contractile properties and neural control during human muscular fatigue. *Muscle Nerve*. 1984; 7(9):691-699.
- Binder-Macleod SA, Snyder-Mackler L. Muscle fatigue: clinical implications for fatigue assessment and neuromuscular electrical stimulation. *Phys Ther*. 1993; 73: 902-910.
- Biondi DM. Cervicogenic headache: a review of diagnostic and treatment strategies. *J Am Osteopath Assoc*. 2005 Apr;105(4 Suppl 2):16S-22S.
- Bisset L, Paungmali A, Vicenzino B, Beller E. A systematic review and meta-analysis of clinical trials on physical interventions for lateral epicondylalgia. *Br J Sports Med*. 2005 Jul;39(7):411-22; discussion 411-22.
- Björklund M, Djupsjöbacka M, Svedmark A, Häger C. Effects of tailored neck-shoulder pain treatment based on a decision model guided by clinical assessments and standardized functional tests. A study protocol of a randomized controlled trial. *BMC Musculoskelet Disord*. 2012 May 20;13:75.
- Blazevish, AJ, Gill ND, Bronks R, Newton RU. Training-specific muscle architecture adaptation after 5-wk training in athletes. *Med Sci Sports Exerc*. 2003 Dec;35(12):2013-22.
- Blonna D, Zarkadas PC, Fitzsimmons JS, O'Driscoll SW. Accuracy and inter-observer reliability of visual estimation compared to clinical goniometry of the elbow. *Knee Surg Sports Traumatol Arthrosc*. 2012 Jul;20(7):1378-85.
- Blume C, Wang-Price S, Trudelle-Jackson E, Ortiz A. Comparison of eccentric and concentric exercise interventions in adults with subacromial impingement syndrome. *International Journal of Sports Physical Therapy*. 2015;10(4):441-455.
- Bø K, Mørkved S, Frawley H, Sherburn M. Evidence for benefit of transversus abdominis training alone or in combination with pelvic floor muscle training to treat female urinary incontinence: A systematic review. *NeuroUrol Urodyn*. 2009;28(5):368-73.
- Bobos P, MacDermid JC, Walton DM, Gross A, Santaguida PL. Patient-Reported Outcome Measures Used for Neck Disorders: An Overview of Systematic Reviews. *J Orthop Sports Phys Ther*. 2018 Oct;48(10):775-788.
- Boling MC, Padua DA, Alexander Creighton R. Concentric and eccentric torque of the hip musculature in individuals with and without patellofemoral pain. *J Athl Train*. 2009 Jan-Feb;44(1):7-13.
- Bolívar YA, Munuera PV, Padillo JP. Relationship between tightness of the posterior muscles of the lower limb and plantar fasciitis. *Foot Ankle Int*. 2013 Jan;34(1):42-8.
- Bonnard M, Sirin AV, Oddsson L, Thorstensson A. Different strategies to compensate for the effects of fatigue revealed by neuromuscular adaptation processes in humans. *Neurosci Lett*. 1994 Jan 17;166(1):101-5.
- Booth J, Moseley GL, Schiltenwolf M, et al. Exercise for chronic musculoskeletal pain: A biopsychosocial approach. *Musculoskeletal Care*. 2017 Dec;15(4):413-421. doi: 10.1002/msc.1191. Epub 2017 Mar 30.
- Borde, R, Hortobagyi, T, Granacher, U. Dose-response relationships of resistance training in healthy old adults: A systematic review and meta-analysis. *Sports Med* 2015. 45:1693-1720.
- Borstad JD, Briggs MS. Reproducibility of a measurement for latissimus dorsi muscle length. *Physiother Theory Pract*. 2010 Apr 22;26(3):195-203.
- Borstad JD, Ludewig PM. Comparison of three stretches for the pectoralis minor muscle. *J Shoulder Elbow Surg*. 2006 May-Jun;15(3):324-30.
- Bove AM, Lynch AD, DePaul SM, Terhorst L, Irrgang JJ, Fitzgerald GK. Test-Retest Reliability of Rating of Perceived Exertion and Agreement With 1-Repetition Maximum in Adults. *J Orthop Sports Phys Ther*. 2016 Sep;46(9):768-74.
- Braith RW, Graves JE, Leggett SH, Pollock ML. Effect of training on the relationship between maximal and submaximal strength. *Med Sci Sports Exerc*. 1993;25(1):132-8.
- Brechue WF, Mayhew JL. Lower-body work capacity and one-repetition maximum squat prediction in college football players. *J Strength Cond Res*. 2012 Feb;26(2):364-72.
- Brink Y, Louw Q, Grimmer K, et al. Development of a cost effective three-dimensional posture analysis tool: validity and reliability. *BMC Musculoskelet Disord*. 2013 Dec 1;14:335.
- Brody LT. Effective therapeutic exercise prescription: the right exercise at the right dose. *J Hand Ther*. 2012 Apr-Jun;25(2):220-31; quiz 232. doi: 10.1016/j.jht.2011.09.009. Epub 2011 Dec 31.
- Brown J, Glaister M. The interactive effects of recovery mode and duration on subsequent repeated sprint performance. *J Strength Cond Res*. 2014 Mar;28(3):651-60.
- Brox JJ, Nygaard ØP, Holm I, et al. Four-year follow-up of surgical versus non-surgical therapy for chronic low back pain. *Ann Rheum Dis*. 2010 Sep;69(9):1643-8.
- Bryan Dixon J. Gastrocnemius vs. soleus strain: how to differentiate and deal with calf muscle injuries. *Current Reviews in Musculoskeletal Medicine*. 2009;2(2):74-77. doi:10.1007/s12178-009-9045-8.

- Bunton EE, Pitney WA, Cappaert TA, Kane AW. The role of limb torque, muscle action and proprioception during closed kinetic chain rehabilitation of the lower extremity. *J Athl Train*. 1993 Spring;28(1):10-20.
- Bussi eres A. A review of functional outcome measures for cervical spine disorders: literature review. *J Can Chiropr Assoc*. 1994 March; 38(1): 32–40.
- Butler RJ, Barrios JA, Royer T, Davis IS. Frontal-Plane Gait Mechanics in People With Medial Knee Osteoarthritis Are Different From Those in People With Lateral Knee Osteoarthritis. *Physical Therapy*. 2011;91(8):1235-1243.
- Cagnie B, Cools A, De Loose V, Cambier D, Danneels L. Differences in isometric neck muscle strength between healthy controls and women with chronic neck pain: the use of a reliable measurement. *Arch Phys Med Rehabil*. 2007 Nov;88(11):1441-5.
- Cagnie B, Cools A, De Loose V, Cambier D, Danneels L. Reliability and normative database of the Zebris cervical range-of-motion system in healthy controls with preliminary validation in a group of patients with neck pain. *J Manipulative Physiol Ther*. 2007 Jul-Aug;30(6):450-5.
- Cai C, Ming G, Ng LY. Development of a clinical prediction rule to identify patients with neck pain who are likely to benefit from home-based mechanical cervical traction. *Eur Spine J*. 2011 Jun;20(6):912-22.
- Calbet JAL, Lundby C. Skeletal muscle vasodilatation during maximal exercise in health and disease. *The Journal of Physiology*. 2012;590(Pt 24):6285-6296. doi:10.1113/jphysiol.2012.241190.
- Camargo PR, Avila MA, Albuquerque-Send n F, Asso NA, Hashimoto LH, Salvini TF. Eccentric training for shoulder abductors improves pain, function and isokinetic performance in subjects with shoulder impingement syndrome: a case series. *Rev Bras Fisioter*. 2012 Jan-Feb;16(1):74-83.
- Campos GE, Luecke TJ, Wendeln HK, et. al. Muscular adaptations in response to three different resistance-training regimens: Specificity of repetition maximum training zones. *Eur J Appl Physiol*. 2002;88:50-60.
- Caneiro JP, O'Sullivan P, Burnett A, et al. The influence of different sitting postures on head/neck posture and muscle activity. *Man Ther*. 2010 Feb;15(1):54-60.
- Carney KR, Brown LE, Coburn JW, Spiering BA. Eccentric torque-velocity and power-velocity relationships in men and women. *Eur J Sport Science*. 2012; 12(2): 139144.
- Carpinelli RN, Otto RM, Winett RA. A critical analysis of the ACSM position stand on resistance training: Insufficient evidence to support recommended training protocols. *JEPonline*. 2004;7(3):1-60.
- Carroll TJ1, Herbert RD, Munn J, Lee M, Gandevia SC. Contralateral effects of unilateral strength training: evidence and possible mechanisms. *J Appl Physiol (1985)*. 2006 Nov;101(5):1514-22.
- Carroll, L. J., Lis, A., Weiser, S., Torti, J. How Well Do You Expect to Recover, and What Does Recovery Mean, Anyway? Qualitative Study of Expectations After a Musculoskeletal Injury. *Physical Therapy*. 2016; 96(6), 797-807.
- Celenay ST, Akbayrak T, Kaya DO. A Comparison of the Effects of Stabilization Exercises Plus Manual Therapy to Those of Stabilization Exercises Alone in Patients with Nonspecific Mechanical Neck Pain: A Randomized Clinical Trial. *J Orthop Sports Phys Ther*. 2016 Feb ;46(2):44-55.
- Celik D, Dirican A, Baltaci G. Intrarater reliability of assessing strength of the shoulder and scapular muscles. *J Sport Rehabil*. 2012 Feb 29;Technical Notes 3:1-5.
- Chahal J, Lee R, Luo J. Loading dose of physical activity is related to muscle strength and bone density in middle-aged women. *Bone*. 2014 Oct;67:41-5.
- Chang A, Hurwitz D, Dunlop D, Song J, Cahue S, Hayes K, Sharma L. The relationship between toe-out angle during gait and progression of medial tibiofemoral osteoarthritis. *Ann Rheum Dis*. 2007 Oct;66(10):1271-5. Epub 2007 Jan 31.
- Chezar A, Berkovitch Y, Haddad M, Keren Y, Soudry M, Rosenberg N. Normal isometric strength of rotator cuff muscles in adults. *Bone & Joint Research*. 2013;2(10):214-219
- Chezar A, Berkovitch Y, Haddad M, Keren Y, Soudry M, Rosenberg N. Normal isometric strength of rotatorcuff muscles in adults. *Bone Joint Res*. 2013 Oct 7;2(10):214-9.
- Childs JD, Cleland JA, Elliott JM, et al. Neck pain: Clinical practice guidelines linked to the International Classification of Functioning, Disability, and Health from the Orthopedic Section of the American Physical Therapy Association. *J Orthop Sports Phys Ther*. 2008 Sep;38(9):A1-A34.
- Childs JD, Flynn TW. Clinical decision making for low back pain: A step in the right direction. *J Orthop Sports Phys Ther* 2014;44(1):1-2.
- Choung SD1, Kwon OY, Park KN, Kim SH, Cynn HS. Short-term effects of self-mobilization with a strap on pain and range of motion of the wrist joint in patients with dorsal wrist pain when weight bearing through the hand: a case series. *Man Ther*. 2013 Dec;18(6):568-72.
- Chow AY, Dickerson CR. Shoulder strength of females while sitting and standing as a function of hand location and force direction. *Appl Ergon*. 2009 May;40(3):303-8. Epub 2009 Jan 21.
- Cibulka MT, White DM, Woehrl J, et al. Hip Pain and Mobility Deficits – Hip Osteoarthritis: Clinical Practice Guidelines Linked to the International Classification of Functioning, Disability, and Health from the Orthopaedic Section of the American Physical Therapy Association. *The Journal of orthopaedic and sports physical therapy*. 2009;39(4):A1-25. doi:10.2519/jospt.2009.0301.

- Ciolek DE, Hwang W. CY 2008 Outpatient Therapy Utilization Report Medicare. Baltimore, MD: Federal Healthcare Organization; 2010. STATS Task Order.
- Clark R. The effects of eccentric hamstring strength training on dynamic jumping performance and isokinetic strength parameters: a pilot study on the implications for the prevention of hamstring injuries. *Phys Ther in Sport*. 2005 May; 6(2): 67-73.
- Cleland JA, Childs JD, Fritz JM, Whitman JM, Eberhart SL. Development of a clinical prediction rule for guiding treatment of a subgroup of patients with neck pain: use of thoracic spine manipulation, exercise, and patient education. *Phys Ther*. 2007 Jan;87(1):9-23.
- Cleland JA, Childs JD, Whitman JM. Psychometric properties of the Neck Disability Index and Numeric Pain Rating Scale in patients with mechanical neck pain. *Arch Phys Med Rehabil*. 2008 Jan;89(1):69-74.
- Cleland JA, Fritz JM, Whitman JM, Heath R. Predictors of short-term outcome in people with a clinical diagnosis of cervical radiculopathy. *Phys Ther*. 2007 Dec;87(12):1619-32.
- Cleland JA, Mintken PE, Carpenter K, et al. Examination of a clinical prediction rule to identify patients with neck pain likely to benefit from thoracic spine thrust manipulation and a general cervical range of motion exercise: multi-center randomized clinical trial. *Phys Ther*. 2010 Sep;90(9):1239-50.
- Cleland JA, Mintken PE, McDevitt A, Bieniek ML, Carpenter KJ, et al. Manual physical therapy and exercise versus supervised home exercise in the management of patients with inversion ankle sprain: a multicenter randomized clinical trial. *J Orthop Sports Phys Ther*. 2013;43(7):443-55.
- Click Fenter P1, Bellew JW, Pitts T, Kay R. A comparison of 3 hand-held dynamometers used to measure hip abduction strength. *J Strength Cond Res*. 2003 Aug;17(3):531-5.
- Colado JC, Garcia-Masso X, Rogers ME, Tella V, Benavent J, Dantas EH. Effects of Aquatic and Dry Land Resistance Training Devices on Body Composition and Physical Capacity in Postmenopausal Women. *Journal of Human Kinetics*. 2012;32:185-195.
- Collin P, Treseder T, Denard PJ, Neyton L, Walch G, Lädermann A. What is the Best Clinical Test for Assessment of the Teres Minor in Massive Rotator Cuff Tears? *Clinical Orthopaedics and Related Research*. 2015;473(9):2959-2966.
- Cook C1, Hegedus E, Showalter C, Sizer PS Jr. Coupling behavior of the cervical spine: a systematic review of the literature. *J Manipulative Physiol Ther*. 2006 Sep;29(7):570-5.
- Cools AM, De Wilde L, Van Tongel A, et al. Measuring shoulder external and internal rotation strength and range of motion: comprehensive intra-rater and inter-rater reliability study of several testing protocols. *J Shoulder Elbow Surg*. 2014 Oct;23(10):1454-61.
- Cools AM, Geeroms E, Van den Berghe DF, Cambier DC, Witvrouw EE. Isokinetic scapular muscle performance in young elite gymnasts. *J Athl Train*. 2007 Oct-Dec;42(4):458-63.
- Coronell C, Orocz-Levi M, Méndez R, et al. Relevance of assessing quadriceps endurance in patients with COPD. *Eur Respir J*. 2004; 24: 129-136.
- Crawford HJ, Jull GA: The influence of thoracic posture and movement on range of arm elevation. *Physiotherapy Theory and Practice* 1993;9:143-148.
- Crosbie J, Kilbreath SL, Hollmann L, York S. Scapulohumeral rhythm and associated spinal motion. *Clin Biomech*. 2008; 23:184–192.
- Crow JB, Gelfand B, Su EP. Use of joint mobilization in a patient with severely restricted hip motion following bilateral hip resurfacing arthroplasty. *Phys Ther*. 2008 Dec;88(12):1591-600.
- Cruz-Jentoft AJ, Baeyens JP, Bauer JM et al. Sarcopenia: European consensus on definition and diagnosis. *Age and Ageing*. 2010; 39: 412–423. Published electronically 13 April 2010.
- Cuthbert SC, Goodheart GJ. On the reliability and validity of manual muscle testing: a literature review. *Chiropractic & Osteopathy*. 2007;15:4. doi:10.1186/1746-1340-15-4.
- Cymet TC, Sinkov V. Does long-distance running cause osteoarthritis? *J Am Osteopath Assoc*. 2006 Jun;106(6):342-5.
- Czamara A, Markowska I, Hagner-Derengowska M. Three-dimensional kinematic analysis of ankle, knee, hip, and pelvic rotation during gait in patients after anterior cruciate ligament reconstruction - early results. *BMC Musculoskeletal Disorders*. 2015;16:266.
- Da Silva HGPV, Cliquet Junior A, Zorzi AR, Batista de Miranda J. Biomechanical changes in gait of subjects with medial knee osteoarthritis. *Acta Ortopedica Brasileira*. 2012;20(3):150-156.
- Daly RM, Duckham RL, Tait JL, Rantalainen T, Nowson CA, et al. Effectiveness of dual-task functional power training for preventing falls in older people: study protocol for a cluster randomised controlled trial. *Trials*. 2015 Mar 27;16:120.
- Danneels L1, Vanderstraeten GG, Cambier DC, Witvrouw EE, De Cuyper HJ. CT imaging of trunk muscles in chronic low back pain patients and healthy control subjects. *Eur Spine J*. 2000 Aug;9(4):266-72.
- Danneels LA et al. Effects of three different training modalities on the cross sectional area of the lumbar multifidus muscle in patients with chronic low back pain. *Br. J. Sports Med*. 2001;35:186-191
- Dashottar A, Costantini O, Borstad J. A comparison of range of motion change across four posterior shoulder tightness measurements after external rotator fatigue. *Int J Sports Phys Ther*. 2014 Aug;9(4):498-508.

- Dauty M1, Potiron-Josse M, Rochcongar P. Consequences and prediction of hamstring muscle injury with concentric and eccentric isokinetic parameters in elite soccer players. *Ann Readapt Med Phys*. 2003 Dec;46(9):601-6.
- de Koning CH, van den Heuvel SP, Staal JB, Smits-Engelsman BC, Hendriks EJ. Clinimetric evaluation of methods to measure muscle functioning in patients with non-specific neck pain: a systematic review. *BMC Musculoskelet Disord*. 2008 Oct 19;9:142.
- de Koning CH, van den Heuvel SP, Staal JB, Smits-Engelsman BC, Hendriks EJ. Clinimetric evaluation of active range of motion measures in patients with non-specific neck pain: a systematic review. *Eur Spine J*. 2008 Jul;17(7):905-21.
- De Ridder EM, Van Oosterwijck JO, Vleeming A, Vanderstraeten GG, Danneels LA. Posterior muscle chain activity during various extension exercises: an observational study. *BMC Musculoskelet Disord*. 2013 Jul 9;14(1):204.
- De Ridder R, Willems T, Vanrentherghem J, Roosen P. Influence of balance surface on ankle stabilizing muscle activity in subjects with chronic ankle instability. *J Rehabil Med*. 2015 Aug 18;47(7):632-8.
- de Salles BF, Simão R, Miranda F, Novaes Jda S, Lemos A, Willardson JM. Rest interval between sets in strength training. *Sports Med*. 2009;39(9):765-77.
- de Vos NJ, Singh NA, Ross DA, Stavrinou TM, Orr R, Fiatarone Singh MA. Optimal load for increasing muscle power during explosive resistance training in older adults. *J Gerontol A Biol Sci Med Sci*. 2005; 60(5):638-647.
- Debusse D, Birch O, St Clair Gibson A, Caplan N. Low impact weight-bearing exercise in an upright posture increases the activation of two key local muscles of the lumbo-pelvic region. *Physiother Theory Pract*. 2013 Jan;29(1):51-60.
- DeCarlo MS, Sell KE. Normative data for range of motion and single-leg hop in high school athletes. *J Sports Rehabil*. 1997;6:246-255.
- Decoster LC, Cleland J, Altieri C, Russell P. The effects of hamstring stretching on range of motion: a systematic literature review. *J Orthop Sports Phys Ther*. 2005 Jun;35(6):377-87.
- Dederling A, Németh G, Harms-Ringdahl K. Correlation between electromyographic spectral changes and subjective assessment of lumbar muscle fatigue in subjects without pain from the lower back. *Clin Biomech (Bristol, Avon)*. 1999 Feb;14(2):103-11.
- Delitto A, Erhard RE, Bowling RW. A treatment-based classification approach to low back syndrome: identifying and staging patients for conservative treatment. *Phys Ther*. 1995 Jun;75(6):470-85; discussion 485-9.
- Delitto A, George SZ, Van Dillen LR, Whitman JM, Sowa G, Shekelle P, Denninger TR, Godges JJ; Orthopaedic Section of the American Physical Therapy Association. Low back pain. *J Orthop Sports Phys Ther*. 2012 Apr;42(4):A1-57.
- Demoulin C, Vanderthommen M, Duysens C, Crielaard JM. Spinal muscle evaluation using the Sorensen test: a critical appraisal of the literature. *Joint Bone Spine*. 2006 Jan;73(1):43-50.
- Demoulin C, Vanderthommen M, Duysens C, Crielaard JM. Spinal muscle evaluation using the Sorensen test: a critical appraisal of the literature. *Joint Bone Spine*. 2006;73:43-50.
- Desmeules F, Côté CH, Frémont P. Therapeutic Exercise and Orthopedic Manual Therapy for Impingement Syndrome: A Systematic Review. *Clin J Sport Med*. 2003; 13: 176-182.
- Deyle GD, Allison SC, Matekel RL, Ryder MG, Stang JM, Gohdes DD, Hutton JP, Henderson NE, Garber MB. Physical therapy treatment effectiveness for osteoarthritis of the knee: a randomized comparison of supervised clinical exercise and manual therapy procedures versus a home exercise program. *Phys Ther*. 2005 Dec;85(12):1301-17.
- Di Stasi SL, MacLeod TD, Winters JD, Binder-Macleod SA. Effects of Statins on Skeletal Muscle: A Perspective for Physical Therapists. *Phys Ther*. 2010 October; 90(10): 1530-1542.
- Dicharry J. Kinematics and kinetics of gait: from lab to clinic. *Clin Sports Med*. 2010 Jul;29(3):347-64.
- Dickx N, D'Hooge R, Cagnie B, et al. Magnetic resonance imaging and electromyography to measure lumbar back muscle activity. *Spine (Phila Pa 1976)*. 2010 Aug 1;35(17):E836-42.
- Dimitrova NA, Dimitrov GV. Interpretation of EMG changes with fatigue: facts, pitfalls, and fallacies. *J Electromyogr Kinesiol*. 2003 Feb;13(1):13-36.
- Domenech MA, Sizer PS, Dedrick GS, McGalliard MK, Brismee JM. The deep neck flexor endurance test: normative data scores in healthy adults. *PM R*. 2011 Feb;3(2):105-10.
- Drury DG, Stuempfle KJ, Mason CW, Girman JC. The effects of isokinetic contraction velocity on concentric and eccentric strength of the biceps brachii. *J Strength Cond Res*. 2006 May;20(2):390-5.
- Drysdale CL, Earl JE, Hertel J. Surface Electromyographic Activity of the Abdominal Muscles During Pelvic-Tilt and Abdominal-Hollowing Exercises. *Journal of Athletic Training*. 2004;39(1):32-36.
- Dunn JC, Iversen MD. Interrater Reliability of Knee Muscle Forces Obtained by Hand-held Dynamometer from Elderly Subjects with Degenerative Back Pain. *J Ger Phys Ther*. 2003; 26 (3): 23-29.
- Dunning JR, Cleland JA, Waldrop MA, et al. Upper cervical and upper thoracic thrust manipulation versus nonthrust mobilization in patients with mechanical neck pain: a multicenter randomized clinical trial. *J Orthop Sports Phys Ther*. 2012 Jan;42(1):5-18.

- Durall CJ. Therapeutic Exercise for Athletes with Nonspecific Neck Pain: A Current Concepts Review. *Sports Health*. 2012;4(4):293-301.
- Durmus D, Alayli G, Bayrak IK, Canturk F. Assessment of the effect of glucosamine sulfate and exercise on knee cartilage using magnetic resonance imaging in patients with knee osteoarthritis: a randomized controlled clinical trial. *J Back Musculoskelet Rehabil*. 2012 Jan 1;25(4):275-84. doi: 10.3233/BMR-2012-0336.
- Duscha BD, Annex BH, Johnson JL, Huffman K, Houmard J, Kraus WE. Exercise dose response in muscle. *Int J Sports Med*. 2012 Mar;33(3):218-23.
- Ebaugh DD, McClure PW, Karduna AR. Effects of shoulder muscle fatigue caused by repetitive overhead activities on scapulothoracic and glenohumeral kinematics. *J Electromyogr Kinesiol*. 2006 Jun;16(3):224-35.
- Eckstein F, Hudelmaier M, Putz R The effects of exercise on human articular cartilage. *J Anat*. 2006 Apr;208(4):491-512.
- Eckstein F, Lemberger B, Gratzke C, Hudelmaier M, Glaser C, Englmeier KH, Reiser M. In vivo cartilage deformation after different types of activity and its dependence on physical training status. *Ann Rheum Dis*. 2005 Feb;64(2):291-5.
- Edama M, Onishi H, Kumaki K, Kageyama I, Watanabe H, Nashimoto S. Effective and selective stretching of the medial head of the gastrocnemius. *Scand J Med Sci Sports*. 2015 Apr;25(2):242-50. doi: 10.1111/sms.12203. Epub 2014 Mar 20.
- Edmondston SJ, Ferguson A, Ippersiel P, Ronningen L, Sodeland S, Barclay L. Clinical and radiological investigation of thoracic spine extension motion during bilateral arm elevation. *J Orthop Sports Phys Ther*. 2012 Oct;42(10):861-9.
- Edmondston SJ, Waller R, Vallin P, Holthe A, Noebauer A, King E. Thoracic spine extension mobility in young adults: influence of subject position and spinal curvature. *J Orthop Sports Phys Ther*. 2011 Apr;41(4):266-73.
- Edmondston SJ, Wallumrød ME, Macleód F, et al. Reliability of isometric muscle endurance tests in subjects with postural neck pain. *J Manipulative Physiol Ther*. 2008 Jun;31(5):348-54.
- Eitzen I, Fernandes L, Nordsletten L, Risberg MA. Sagittal plane gait characteristics in hip osteoarthritis patients with mild to moderate symptoms compared to healthy controls: a cross-sectional study. *BMC Musculoskeletal Disorders*. 2012;13:258. doi:10.1186/1471-2474-13-258.
- Ekstrom RA, Bifulco KM, Lopau CJ, Andersen CF, Gough JR. Comparing the function of the upper and lower parts of the serratus anterior muscle using surface electromyography. *J Orthop Sports Phys Ther*. 2004 May;34(5):235-43.
- Ellenbecker TS, Roetert EP, Riewald S. Isokinetic profile of wrist and forearm strength in elite female junior tennis players. *Br J Sports Med*. 2006 May;40(5):411-4.
- Ellenbecker TS, Roetert EP. Isokinetic profile of elbow flexion and extension strength in elite junior tennis players. *J Orthop Sports Phys Ther*. 2003 Feb;33(2):79-84.
- Enoka RM, Duchateau J. Muscle fatigue: what, why and how it influences muscle function. *J Physiol*. 2008 Jan 1;586(1):11-23.
- Enoka RM. Eccentric contractions require unique activation strategies by the nervous system. *J Appl Physiol* 1996 Dec;81(6):2339-46.
- ENSEKI K, HARRIS-HAYES M, WHITE DM, et al. Non-arthritis Hip Joint Pain: Clinical Practice Guidelines Linked to the International Classification of Functioning, Disability, and Health from the Orthopaedic Section of the American Physical Therapy Association. *The Journal of orthopaedic and sports physical therapy*. 2014;44(6):A1-32. doi:10.2519/jospt.2014.0302.
- Falla D, Bilenkij G, Jull G. Patients with chronic neck pain demonstrate altered patterns of muscle activation during performance of a functional upper limb task. *Spine* 2004 Jul 1;29(13):1436-40.
- Falla D, Jull G, Hodges P, Vicenzino B. An endurance-strength training regime is effective in reducing myoelectric manifestations of cervical flexor muscle fatigue in females with chronic neck pain. *Clin Neurophysiol*. 2006 Apr;117(4):828-37. Epub 2006 Feb 21.
- Falla D, Jull G, Russell T, Vicenzino B, Hodges P. Effect of neck exercise on sitting posture in patients with chronic neck pain. *Phys Ther*. 2007 Apr;87(4):408-17.
- Falla D, Lindstrøm R, Rechter L, Boudreau S, Petzke F. Effectiveness of an 8-week exercise programme on pain and specificity of neck muscle activity in patients with chronic neck pain: A randomized controlled study. *Eur J Pain*. 2013 May 6.
- Falla DL, Campbell CD, Fagan AE, Thompson DC, Jull GA. Relationship between cranio-cervical flexion range of motion and pressure change during the cranio-cervical flexion test. *Man Ther*. 2003 May;8(2):92-6.
- Falvey J, Burke RE, Levy CR, et al. Impaired Physical Performance Predicts Hospitalization Risk for Participants in the Program of All-Inclusive Care for the Elderly. *Phys Ther*. 2019 Jan 1;99(1):28-36.
- Farooq M, Khan AA. Effect of elbow flexion, forearm rotation and upper arm abduction on MVC grip and grip endurance time. *Int J Occup Saf Ergon*. 2012;18(4):487-98.
- Farthing JP, Chilibeck PD. The effects of eccentric and concentric training at different velocities on muscle hypertrophy. *Eur J of Appl Phys*. 2003 Aug; 89(6): 578-586.
- Ferguson RA, Ball D, Krstrup P, et al. Muscle oxygen uptake and energy turnover during dynamic exercise at different contraction frequencies in humans. *The Journal of Physiology*. 2001;536(Pt 1):261-271. doi:10.1111/j.1469-7793.2001.00261.x.

- Fernández-Pérez AM, Villaverde-Gutiérrez C, Mora-Sánchez A, et al. Muscle trigger points, pressure pain threshold, and cervical range of motion in patients with high level of disability related to acute whiplash injury. *J Orthop Sports Phys Ther.* 2012;42(7):634-41.
- Ferreira PH, Ferreira ML, Maher CG, Herbert RD, Refshauge K. Specific stabilisation exercise for spinal and pelvic pain: a systematic review. *Aust J Physiother.* 2006;52(2):79-88
- Ferriero G, Vercelli S, Sartorio F, et al. Reliability of a smartphone-based goniometer for knee joint goniometry. *Int J Rehabil Res.* 2013 Jun;36(2):146-51.
- Folland JP, Irish CS et al. Fatigue Is Not a Necessary Stimulus for Strength Gains During Resistance Training. *Br J Sports Med.* 2002; 36(5): 370-373.
- Freeman MD, Woodham MA, Woodham AW. The role of the lumbar multifidus in chronic low back pain: a review. *PM R.* 2010 Feb;2(2):142-6; quiz 1 p following 167.
- Fritz JM, Thackeray A, Brennan GP, Childs JD. Exercise only, exercise with mechanical traction, or exercise with over-door traction for patients with cervical radiculopathy, with or without consideration of status on a previously described subgrouping rule: a randomized clinical trial. *J Orthop Sports Phys Ther.* 2014 Feb;44(2):45-57.
- Fritz JM, Whitman JM, Childs JD. Lumbar spine segmental mobility assessment: an examination of validity for determining intervention strategies in patients with low back pain. *Arch Phys Med Rehabil.* 2005;86(9):1745-52.
- Furia JP, Willis FB, Shanmugam R, Curran SA. Systematic Review of Contracture Reduction in the Lower Extremity with Dynamic Splinting. *Advances in Therapy.* 2013;30(8):763-770. doi:10.1007/s12325-013-0052-1.
- Gait Whittle M. *Gait Analysis: An Introduction Third Edition.* Woburn, MA:Butterworth---Heinemann;2002:54.
- Gajdosik RL, Bohannon RW. Clinical measurement of range of motion. Review of goniometry emphasizing reliability and validity. *Phys Ther.* 1987 Dec;67(12):1867-72.
- Galois L, Etienne S, Grosse L, Watrin-Pinzano A, Cournil-Henrionnet C, Loeuille D, Netter P, Mainard D, Gillet P. Dose-response relationship for exercise on severity of experimental osteoarthritis in rats: a pilot study. *Osteoarthritis Cartilage.* 2004 Oct;12(10):779-86.
- Galvão DA, Taaffe DR. Resistance exercise dosage in older adults: single- versus multiset effects on physical performance and body composition. *Am Geriatr Soc.* 2005 Dec;53(12):2090-7.
- Garcés GL, Medina D, Milutinovic L, Garavote P, Guerado E. Normative database of isometric cervical strength in a healthy population. *Med Sci Sports Exerc.* 2002 Mar;34(3):464-70.
- Geary K, Green BS, Delahunt E. Intrarater reliability of neck strength measurement of rugby union players using a handheld dynamometer. *J Manipulative Physiol Ther.* 2013 Sep;36(7).
- Geisser ME, Wiggert EA, Haig AJ, Colwell MO. A randomized, controlled trial of manual therapy and specific adjuvant exercise for chronic low back pain. *Clin J Pain.* 2005;21:463-470.
- Gerling ME, Brown SH. Architectural analysis and predicted functional capability of the human latissimus dorsi muscle. *J Anat.* 2013 Aug;223(2):112-22.
- Gibbons S. Neurocognitive and sensorimotor deficits represent an important sub-classification for musculoskeletal disorders – Central Nervous System Coordination. *J Icelandic Phys Ther Assoc* 2011, 38(1):10–12.
- Glasoe WM, Phadke V, Pena FA, Nuckley DJ, Ludewig PM. An image-based gait simulation study of tarsal kinematics in women with hallux valgus. *Phys Ther.* 2013;93:1551-1562.
- Glasoe WM. Treatment of Progressive First Metatarsophalangeal Hallux Valgus Deformity: A Biomechanically Based Muscle-Strengthening Approach. *J Orthop Sports Phys Ther.* 2016 Jul;46(7):596-605
- Goodpaster BH, Carlson CL, Visser M, et al. Attenuation of skeletal muscle and strength in the elderly: the Health ABC study. *J Appl Physiol* 2001;90:2157–65.
- Goodpaster BH, Chomentowski P, Ward BK, Rossi A, Glynn NW, Delmonico MJ, Kritchevsky SB, Pahor M, Newman AB. Effects of physical activity on strength and skeletal muscle fat infiltration in older adults: a randomized controlled trial. *J Appl Physiol* 105: 1498–1503, 2008.
- Gordon KD, Pardo RD, Johnson JA, King GJ, Miller TA. Electromyographic activity and strength during maximum isometric pronation and supination efforts in healthy adults. *J Orthop Res.* 2004 Jan;22(1):208-13.
- Gordon R, Bloxham S. A Systematic Review of the Effects of Exercise and Physical Activity on Non-Specific Chronic Low Back Pain. *Healthcare (Base).* 2016;4(2):22. Published 2016 Apr 25. doi:10.3390/healthcare4020022
- Green S, Buchbinder R, Hetrick S. Physiotherapy interventions for shoulder pain. *Cochrane Database Syst Rev.* 2003;(3): CD004258.
- Greenhalgh T, Howick J, Maskrey N. Evidence based medicine: a movement in crisis? *BMJ : British Medical Journal.* 2014;348:g3725.
- Grimaldi A, Fearon A. Gluteal Tendinopathy: Pathomechanics and Implications for Assessment and Management. *J Orthop Sports Phys Ther.* 2015 Sep 17:1-41. [Epub ahead of print]
- Grimsby O. Scientific-Therapeutic-Exercise-Progressions. *The Journal of Manual and Manipulative Therapy.* 1994; 2(3): 94-101.

- Gross A, Forget M, St George K, et al. Patient education for neck pain. *Cochrane Database Syst Rev*. 2012 Mar 14;3:CD005106.
- Gross A, Miller J, D'Sylva J, et al. Manipulation or mobilisation for neck pain: a Cochrane Review. *Man Ther*. 2010 Aug;15(4):315-33.
- Gross AR, Goldsmith C, Hoving JL, et al. Conservative management of mechanical neck disorders: a systematic review. *J Rheumatol* 2007, 34:1083–1102.
- Gruther W, Wick F, Paul B, Leitner C, Posch M, Matzner M, Crevenna R, Ebenbichler G. Diagnostic accuracy and reliability of muscle strength and endurance measurements in patients with chronic low back pain. *J Rehabil Med*. 2009 Jul;41(8):613-9.
- Guenzkofer F, Bubb H, Bengler K. Elbow torque ellipses: investigation of the mutual influences of rotation, flexion, and extension torques. *Work*. 2012;41 Suppl 1:2260-7.
- Hagen KB, Dagfinrud H, Moe RH, Østerås N, Kjekken I, Grotle M, Smedslund G. Exercise therapy for bone and muscle health: an overview of systematic reviews. *BMC Med*. 2012 Dec 19;10:167.
- Haladay DE, Miller SJ, Challis J, Denegar CR. Quality of systematic reviews on specific spinal stabilization exercise for chronic low back pain. *J Orthop Sports Phys Ther*. 2013 Apr;43(4):242-50.
- Hall T, Briffa K, Hopper D. Clinical evaluation of cervicogenic headache: a clinical perspective. *J Man Manip Ther*. 2008;16(2):73-80.
- Hall TM, Briffa K, Hopper D, Robinson KW. The relationship between cervicogenic headache and impairment determined by the flexion-rotation test. *J Manipulative Physiol Ther*. 2010 Nov-Dec;33(9):666-71.
- Hall TM, Robinson KW, Fujinawa O, Akasaka K, Pyne EA. Intertester reliability and diagnostic validity of the cervical flexion-rotation test. *J Manipulative Physiol Ther*. 2008 May;31(4):293-300.
- Han H, Kubo A, Kurosawa K, Maruichi S, Maruyama H. Hip rotation range of motion in sitting and prone positions in healthy Japanese adults. *Journal of Physical Therapy Science*. 2015;27(2):441-445.
- Hando BR, Gill NW, Walker MJ, Garber M. Short- and long-term clinical outcomes following a standardized protocol of orthopedic manual physical therapy and exercise in individuals with osteoarthritis of the hip: a case series. *J Man Manip Ther*. 2012 Nov;20(4):192-200.
- Hanney WJ, George SZ, Kolber MJ, Young I, Salamh PA, Cleland JA. Inter-rater reliability of select physical examination procedures in patients with neck pain. *Physiother Theory Pract*. 2013 Dec 30.
- Hapidou EG, O'Brien MA, Pierrynowski MR, de Las Heras E, Patel M, Patla T. Fear and Avoidance of Movement in People with Chronic Pain: Psychometric Properties of the 11-Item Tampa Scale for Kinesiophobia (TSK-11). *Physiother Can*. 2012 Summer;64(3):235-41.
- Harris KD, Heer DM, Roy TC, et al. Reliability of a measurement of neck flexor muscle endurance. *Phys Ther*. 2005 Dec;85(12):1349-55.
- Harris, Ian. *Surgery, The Ultimate Placebo: A Surgeon Cuts through the Evidence*. South Wales: University of New South Wales Press; 2016.
- Harris-Hayes M, Czuppon S, Van Dillen LR, et al. Movement-Pattern Training to Improve Function in People With Chronic Hip Joint Pain: A Feasibility Randomized Clinical Trial. *J Orthop Sports Phys Ther*. 2016 Jun;46(6):452-61.
- Haskins R, Osmotherly PG, Tuyl F, Rivett DA. Uncertainty in Clinical Prediction Rules: The Value of Credible Intervals. *J Orthop Sports Phys Ther*. 2013 Oct 30.
- Hayes K, Walton JR, Szomor ZR, Murrell GA. Reliability of five methods for assessing shoulder range of motion. *Aust J Physiother*. 2001;47(4):289-94.
- Health Council of the Netherlands. Therapeutic exercise. The Hague: Health Council of the Netherlands; 2003; publication no. 2003/22.
- Heiderscheid BC1, Sherry MA, Silder A, Chumanov ES, Thelen DG. Hamstring strain injuries: recommendations for diagnosis, rehabilitation, and injury prevention. *J Orthop Sports Phys Ther*. 2010 Feb;40(2):67-81.
- Heiser R, O'Brien VH, Schwartz DA. The use of joint mobilization to improve clinical outcomes in hand therapy: a systematic review of the literature. *J Hand Ther*. 2013 Oct-Dec;26(4):297-311; quiz 311.
- Henderson ER, Marulanda GA, Cheong D, Temple HT, Letson GD. Hip abductor moment arm - a mathematical analysis for proximal femoral replacement. *Journal of Orthopaedic Surgery and Research*. 2011;6:6.
- Henry SM, Fritz JM, Trombley AR, Bunn JY. Reliability of a treatment-based classification system for subgrouping people with low back pain. *J Orthop Sports Phys Ther*. 2012 Sep;42(9):797-805. doi: 10.2519/jospt.2012.4078. Epub 2012 Jun 7.
- Heo M-Y, Kim K, Hur, B-Y, Nam C-W. The effect of lumbar stabilization exercises and thoracic mobilization and exercises on chronic low back pain patients. *Journal of Physical Therapy Science*. 2015;27(12):3843-3846.
- Herd CR, Meserve BB. A systematic review of the effectiveness of manipulative therapy in treating lateral epicondylalgia. *J Man Manip Ther*. 2008;16(4):225-37.
- Hernandez HJ, McIntosh V, Leland A, Harris-Love MO. Progressive Resistance Exercise with Eccentric Loading for the Management of Knee Osteoarthritis. *Frontiers in Medicine*. 2015;2:45.
- Hibbert O, Cheong K, Grant A, Beers A, Moizumi T. A systematic review of the effectiveness of eccentric strength training in the prevention of hamstring muscle strains in otherwise healthy individuals. *N Am J Sports Phys Ther*. 2008 May;3(2):67-81.

- Hicks GE, Fritz JM, Delitto A, McGill SM. Preliminary development of a clinical prediction rule for determining which patients with low back pain will respond to a stabilization exercise program. *Arch Phys Med Rehabil*. 2005 Sep;86(9):1753-62.
- Hieblinger R, Coenen M, Stucki G, Winkelmann A, Cieza A. Validation of the International Classification of Functioning, Disability and Health Core Set for chronic widespread pain from the perspective of fibromyalgia patients. *Arthritis Res Ther*. 2009;11(3):R67.
- Hinman MR. Comparison of thoracic kyphosis and postural stiffness in younger and older women. *Spine J*. 2004 Jul-Aug;4(4):413-7.
- Ho CY, Sole G, Munn J. The effectiveness of manual therapy in the management of musculoskeletal disorders of the shoulder: a systematic review. *Man Ther*. 2009;14(5):463-474.
- Hoeksma HL, Dekker J, Ronday HK, Heering A, van der Lubbe N, et al. Comparison of manual therapy and exercise therapy in osteoarthritis of the hip: a randomized clinical trial. *Arthritis Rheum*. 2004 Oct 15;51(5):722-9.
- Hollman JH, Ginos BE, Kozuchowski J, Vaughn AS, Krause DA, Youdas JW. Relationships between knee valgus, hip-muscle strength, and hip-muscle recruitment during a single-limb step-down. *J Sport Rehabil*. 2009 Feb;18(1):104-17.
- Holm I, Bolstad B, Lütken T, et al. Reliability of goniometric measurements and visual estimates of hip ROM in patients with osteoarthritis. *Physiother Res Int*. 2000;5(4):241-8.
- Holmgren T, Björnsson Hallgren H, Öberg B, Adolfsson L, Johansson K. Effect of specific exercise strategy on need for surgery in patients with subacromial impingement syndrome: randomised controlled study. *BMJ*. 2012 Feb 20;344:e787.
- Holten O. Medisinsk treningsterapi. *Fysioterapeuten* 1976; 1 1:9-14.
- Honeine JL, Schieppati M, Gagey O, Do MC. The functional role of the triceps surae muscle during human locomotion. *PLoS One*. 2013;8(1):e52943.
- Hoogvliet P, Randsdorp MS, Dingemanse R, Koes BW, Huisstede BM. Does effectiveness of exercise therapy and mobilisation techniques offer guidance for the treatment of lateral and medial epicondylitis? A systematic review. *Br J Sports Med*. 2013 Nov;47(17):1112-9.
- Hopayian K, Song F, Riera R, Sambandan S. The clinical features of the piriformis syndrome: a systematic review. *European Spine Journal*. 2010;19(12):2095-2109. doi:10.1007/s00586-010-1504-9.
- Horn ME, Fritz JM. Timing of physical therapy consultation on 1-year healthcare utilization and costs in patients seeking care for neck pain: a retrospective cohort. *BMC Health Serv Res*. 2018 Nov 26;18(1):887.
- Hortobagyi T, Lambert NJ, Hill JP. Greater cross education following training with muscle lengthening than shortening. *Med Sci Sports Exerc* 1997;29:107-112.
- Howard JD, Enoka RM. Maximum bilateral contractions are modified by neurally mediated interlimb effects. *J Appl Physiol* 1991;70:306-316.
- Howell SM, Imobersteg AM, Seger DH, Marone PJ. Clarification of the role of the supraspinatus muscle in shoulder function. *J Bone Joint Surg Am*. 1986 Mar;68(3):398-404.
- Hubbard TJ, Hertel J, Sherbondy P. Fibular position in individuals with self-reported chronic ankle instability. *J Orthop Sports Phys Ther*. 2006 Jan;36(1):3-9.
- Huisman PA, Speksnijder CM, de Wijer A. The effect of thoracic spine manipulation on pain and disability in patients with non-specific neck pain: a systematic review. *Disabil Rehabil*. 2013 Jan 23.
- Huisman PA, Speksnijder CM, de Wijer A. The effect of thoracic spine manipulation on pain and disability in patients with non-specific neck pain: a systematic review. *Disabil Rehabil*. 2013 Sep;35(20):1677-85.
- Hunter SK. Sex Differences in Human Fatigability: Mechanisms and Insight to Physiological Responses. *Acta physiologica (Oxford, England)*. 2014;210(4):768-789. doi:10.1111/apha.12234.
- Hurd WJ, Kaplan KM, ElAttrache NS, Jobe FW, Morrey BF, Kaufman KR. A Profile of Glenohumeral Internal and External Rotation Motion in the Uninjured High School Baseball Pitcher, Part I: Motion. *Journal of Athletic Training*. 2011;46(3):282-288.
- Hurwitz EL, Carragee EJ, van der Velde G, et al. Treatment of neck pain: noninvasive interventions: results of the Bone and Joint Decade 2000-2010 Task Force on Neck Pain and Its Associated Disorders. *Spine*. 2008 Feb 15;33(4 Suppl):S123-52.
- Iglesias E, Boullosa DA, Dopico X, Carballeira E. Analysis of factors that influence the maximum number of repetitions in two upper-body resistance exercises: curl biceps and bench press. *J Strength Cond Res*. 2010 Jun;24(6):1566-72.
- Inani SB, Selkar SP. Effect of core stabilization exercises versus conventional exercises on pain and functional status in patients with non-specific low back pain: a randomized clinical trial. *J Back Musculoskelet Rehabil*. 2013;26(1):37-43. doi: 10.3233/BMR-2012-0348.
- Ito T, Shirado O, Suzuki H, Takahashi M, Kaneda K, Strax TE. Lumbar trunk muscle endurance testing: an inexpensive alternative to a machine for evaluation. *Arch Phys Med Rehabil* 1996;77:75-9.
- Izquierdo M, Ibañez J, Calbet JA, González-Izal M, Navarro-Amézqueta I, et al. Neuromuscular fatigue after resistance training. *Int J Sports Med*. 2009 Aug;30(8):614-23. doi: 10.1055/s-0029-1214379. Epub 2009 Apr 20.
- Izquierdo M, Ibanez J, et al. Differential Effects of Strength Training Leading to Failure Versus Not to Failure on Hormonal Responses, Strength, and Muscle Power Gains. *Appl Physiol*. 2006; 100(5): 1647-1656.

- Jaeho Y, Daesung P, Gyuchang L. Effect of Eccentric Strengthening on Pain, Muscle Strength, Endurance, and Functional Fitness: Factors in Male Patients with Achilles Tendinopathy. *Am J Phys Med and Rehab.* 2013;91(1):68---76.
- Jang EM, Yoo WG. Comparison of the gluteus medius and rectus femoris muscle activities during natural sit-to-stand and sit-to-stand with hip abduction in young and older adults. *J Phys Ther Sci.* 2015 Feb;27(2):375-6.
- Jang JH, Oh JS. Changes in Shoulder External Rotator Muscle Activity during Shoulder External Rotation in Various Arm Positions in the Sagittal Plane. *J Phys Ther Sci.* 2014 Jan;26(1):135-7.
- Jansen MJ, Viechtbauer W, Lenssen AF, Hendriks EJM, de Bie AB. Strength training alone, exercise therapy alone, and exercise therapy with passive manual mobilization each reduce pain and disability in people with knee osteoarthritis: a systematic review. *Journal of Physiotherapy* 2011; 57: 11-20.
- Jeong U-C, Kim C-Y, Park Y-H, Hwang-Bo G, Nam C-W. The effects of self-mobilization techniques for the sciatic nerves on physical functions and health of low back pain patients with lower limb radiating pain. *Journal of Physical Therapy Science.* 2016;28(1):46-50.
- Johnson KD, Grindstaff TL. Thoracic rotation measurement techniques: clinical commentary. *N Am J Sports Phys Ther.* 2010 Dec;5(4):252-6.
- Johnson KD, Kim KM, Yu BK, Saliba SA, Grindstaff TL. Reliability of thoracic spine rotation range-of-motion measurements in healthy adults. *J Athl Train.* 2012 Jan-Feb;47(1):52-60.
- Johnston V, Jull G, Darnell R, Jimmieson NL, Souvlis T. Alterations in cervical muscle activity in functional and stressful tasks in female office workers with neck pain. *Eur J Appl Physiol.* 2008 Jun;103(3):253-64.
- Jordan A, Mehlsen J, Bulow PM, Ostergaard K, Danneskiold-Samsøe B. Maximal isometric strength of the cervical musculature in 100 healthy volunteers. *Spine.* 1999;24:1343-1348.
- Jull GA, O'Leary SP, Falla DL. Clinical assessment of the deep cervical flexor muscles: the craniocervical flexion test. *J Manipulative Physiol Ther.* 2008 Sep;31(7):525-33.
- Jull GA. Biopsychosocial model of disease: 40 years on. Which way is the pendulum swinging? *Br J Sports Med.* 2017 Jan 6. pii: bjsports-2016-097362.
- Juul T, Langberg H, Enoch F, Sjøgaard K. The intra- and inter-rater reliability of five clinical muscle performance tests in patients with and without neck pain. *BMC Musculoskelet Disord.* 2013 Dec 3;14:339.
- Kachingwe AF, Phillips B, Sletten E, Plunkett SW. Comparison of manual therapy techniques with therapeutic exercise in the treatment of shoulder impingement: a randomized controlled pilot clinical trial. *J Man Manip Ther.* 2008;16(4):238-47.
- Kamioka H, Tsutani K, Mutoh Y, et al. A systematic review of nonrandomized controlled trials on the curative effects of aquatic exercise. *International Journal of General Medicine.* 2011;4:239-260.
- Kandilov A, Lyda-McDonald B, Drozd EM. Developing Outpatient Therapy Payment Alternatives (DOTPA): 2007. Utilization Report. Research Triangle Park, NC: RTI International; 2009.
- Kang MH, Oh JS, Jang JH. Differences in Muscle Activities of the Infraspinatus and Posterior Deltoid during Shoulder External Rotation in Open Kinetic Chain and Closed Kinetic Chain Exercises. *J Phys Ther Sci.* 2014 Jun;26(6):895-7.
- Kannus P, Elosa D, Cook L, et al. Effect of one-legged exercise on the strength, power and endurance of the contralateral leg. A randomized, controlled study using isometric and concentric isokinetic training. *Eur J Appl Physiol Occup Physiol* 1992;64:117-126.
- Kary JM. Diagnosis and management of quadriceps strains and contusions. *Current Reviews in Musculoskeletal Medicine.* 2010;3(1-4):26-31. doi:10.1007/s12178-010-9064-5.
- Katalinic OM, Harvey LA, Herbert RD, et al. Stretch for the treatment and prevention of contractures. *Cochrane Database Syst Rev.* 2010 Sep 8;(9):CD007455.
- Kaux JF, Forthomme B, Namurois MH, Bauvir P, Defawe N. et al. Description of a standardized rehabilitation program based on sub-maximal eccentric following a platelet-rich plasma infiltration for jumper's knee. *Muscles Ligaments Tendons J.* 2014 May 8;4(1):85-9.
- Kay TM, Gross A, Goldsmith CH, et al. Exercises for mechanical neck disorders. *Cochrane Database Syst Rev.* 2012 Aug 15;8:CD004250.
- Kaya DO, Baltaci G, Toprak U, Atay AO. The Clinical and Sonographic Effects of Kinesiotaping and Exercise in Comparison With Manual Therapy and Exercise for Patients With Subacromial Impingement Syndrome: A Preliminary Trial. *J Manipulative Physiol Ther.* 2014 July - August;37(6):422-432.
- Kaya DO, Ergun N, Hayran M. Effects of different segmental spinal stabilization exercise protocols on postural stability in asymptomatic subjects: randomized controlled trial. *J Back Musculoskelet Rehabil.* 2012;25(2):109-16. doi: 10.3233/BMR-2012-0318.
- Kebaetse M, McClure P, Pratt NA. Thoracic position effect on shoulder range of motion, strength, and three-dimensional scapular kinematics. *Arch Phys Med Rehabil.* 1999 Aug;80(8):945-50.
- Kellis E, Katis A. Quantification of functional knee flexor to extensor moment ratio using isokinetics and electromyography. *J Athl Train.* 2007 Oct-Dec;42(4):477-85.
- Kelsey DD, Tyson E. A new method of training for the lower extremity using unloading. *J Orthop Sports Phys Ther.* 1994 Apr;19(4):218-23.

- Kent P, Mjøsund HL, Petersen DHD. Does targeting manual therapy and/or exercise improve patient outcomes in nonspecific low back pain? A systematic review. *BMC Medicine*. 2010; 8:22.
- Kent-Braun JA. Central and peripheral contributions to muscle fatigue in humans during sustained maximal effort. *Eur J Appl Physiol Occup Physiol*. 1999 Jun;80(1):57-63.
- Kern-Steiner R, Washecheck HS, Kelsey DD. Strategy of exercise prescription using an unloading technique for functional rehabilitation of an athlete with an inversion ankle sprain. *J Orthop Sports Phys Ther*. 1999 May;29(5):282-7.
- Khan KM, Scott A. Mechanotherapy: how physical therapists' prescription of exercise promotes tissue repair. *British Journal of Sports Medicine*. 2009;43(4):247-252. doi:10.1136/bjism.2008.054239.
- Khan KM1, Scott A. Mechanotherapy: how physical therapists' prescription of exercise promotes tissue repair. *Br J Sports Med*. 2009 Apr;43(4):247-52.
- Kim HY, Kim KJ, Yang DS, Jeung SW, Choi HG, Choy WS. Screw-Home Movement of the Tibiofemoral Joint during Normal Gait: Three-Dimensional Analysis. *Clinics in Orthopedic Surgery*. 2015;7(3):303-309.
- Knapik JJ, Wright JE, Mawdsley RH, Braun J. Isometric, isotonic, and isokinetic torque variations in four muscle groups through a range of joint motion. *Phys Ther*. 1983 Jun;63(6):938-47.
- Ko KJ, Ha GC, Yook YS, Kang SJ. Effects of 12-week lumbar stabilization exercise and sling exercise on lumbosacral region angle, lumbar muscle strength, and pain scale of patients with chronic low back pain. *J Phys Ther Sci*. 2018;30(1):18-22.
- Kobsar D, Osis ST, Hettinga BA, Ferber R. Gait Biomechanics and Patient-Reported Function as Predictors of Response to a Hip Strengthening Exercise Intervention in Patients with Knee Osteoarthritis. *Hug F, ed. PLoS ONE*. 2015;10(10):e0139923.
- Kolber MJ, Cleland JA. Strength testing using hand-held dynamometry. *Physical Therapy Reviews* 2005; 10: 99–112.
- Konitzer LN, Gill NW, Koppenhaver SL. Investigation of abdominal muscle thickness changes after spinal manipulation in patients who meet a clinical prediction rule for lumbar stabilization. *J Orthop Sports Phys Ther*. 2011 Sep;41(9):666-74.
- Koppenhaver SL, Fritz JM, Hebert JJ, et al. Association between changes in abdominal and lumbar multifidus muscle thickness and clinical improvement after spinal manipulation. *J Orthop Sports Phys Ther*. 2011 Jun;41(6):389-99.
- Kosek DJ, Kim JS, Petrella JK, Cross JM, Bamman MM. Efficacy of 3 days/wk resistance training on myofiber hypertrophy and myogenic mechanisms in young vs. older adults. *J Appl Physiol*. 2006;101(2):531–44.
- Koutedakis Y1, Frischknecht R, Murthy M. Knee flexion to extension peak torque ratios and low-back injuries in highly active individuals. *Int J Sports Med*. 1997 May;18(4):290-5.
- Kraemer WJ, Ratamess NA. Fundamentals of resistance training: Progression and exercise prescription. *Medicine and Science in Sports and Exercise*. 2004;36: 674-688.
- Krause DA, Schlagel SJ, Stember BM, Zoetewey JE, Hollman JH. Influence of lever arm and stabilization on measures of hip abduction and adduction torque obtained by hand-held dynamometry. *Arch Phys Med Rehabil*. 2007 Jan;88(1):37-42.
- Kromer TO, Tautenhahn UG, de Bie RA, Staal JB, Bastiaenen CH. Effects of physiotherapy in patients with shoulder impingement syndrome: a systematic review of the literature. *J Rehabil Med*. 2009;41(11):870-880.
- Laird RA, Gilbert J, Kent P, Keating JL. Comparing lumbo-pelvic kinematics in people with and without back pain: a systematic review and meta-analysis. *BMC Musculoskeletal Disorders*. 2014;15:229.
- Lam OT, Strenger DM, Chan-Fee M, et al. Effectiveness of the McKenzie Method of Mechanical Diagnosis and Therapy for Treating Low Back Pain: Literature Review With Meta-analysis. *J Orthop Sports Phys Ther*. 2018 Jun;48(6):476-490.
- LaStayo PC, Woolf JM, Lewek MD, Snyder-Mackler L, Reich T, Lindstedt SL. Eccentric muscle contractions: their contribution to injury, prevention, rehabilitation, and sport. *J Orthop Sports Phys Ther*. 2003 Oct;33(10):557-71
- Lastayo PC1, Reich TE, Urquhart M, Hoppeler H, Lindstedt SL. Chronic eccentric exercise: improvements in muscle strength can occur with little demand for oxygen. *Am J Physiol*. 1999 Feb;276(2 Pt 2):R611-5.
- Laurent CM, Green JM, Bishop PA, et al. Effect of gender on fatigue and recovery following maximal intensity repeated sprint performance. *J Sports Med Phys Fitness*. 2010 Sep;50(3):243-53.
- Lederman E. The myth of core stability. *J Bodyw Mov Ther*. 2010 Jan;14(1):84-98.
- Lee CN, Robbins DP, Roberts HJ, et al. Reliability and validity of single inclinometer measurements for thoracic spine range of motion. *Physiotherapy Canada* 2003;55:73-8.
- Lee D, Park J, Lee S. Isometric Contraction of an Upper Extremity and Its Effects on the Contralateral Lower Extremity. *Journal of Physical Therapy Science*. 2014;26(11):1707-1709.
- Lee HS. The effects of aerobic exercise and strengthening exercise on pain pressure thresholds. *J Phys Ther Sci*. 2014 Jul;26(7):1107-11.
- Lee MH, Park SJ, Kim JS. Effects of neck exercise on high-school students' neck-shoulder posture. *J Phys Ther Sci*. 2013 May;25(5):571-4.

- Lee S, Park J, Lee D. The Effects of Cervical Stabilization Exercises on the Electromyographic Activity of Shoulder Stabilizers. *Journal of Physical Therapy Science*. 2013;25(12):1557-1560.
- Lee SJ, Hidler J. Biomechanics of overground vs. treadmill walking in healthy individuals. *J Appl Physiol* 2008; 104: 747–755.
- Legaspi O, Edmond SL. Does the evidence support the existence of lumbar spine coupled motion? A critical review of the literature. *J Orthop Sports Phys Ther*. 2007 Apr;37(4):169-78.
- Leino-Arjas P, Solovieva S, Kirjonen J, Reunanen A, Riihimäki H. Cardiovascular risk factors and low-back pain in a long-term follow-up of industrial employees. *Scand J Work Environ Health*. 2006 Feb;32(1):12-9.
- Lembke A. *Drug Dealer, MD: How Doctors Were Duped, Patients Got Hooked, and Why It's So Hard to Stop*. Johns Hopkins University Press; 1 edition; 2016.
- Lemmer JT, Hurlbut DE, Martel GF, Tracy BL, Ivey FM, Metter EJ, Fozard JL, Fleg JL, Hurley BF. Age and gender responses to strength training and detraining. *Med. Sci. Sports Exerc*. 2000;32 (8): 1505–1512.
- Lesinski M, Hortobágyi T, Muehlbauer T, Gollhofer A, Granacher U. Effects of Balance Training on Balance Performance in Healthy Older Adults: A Systematic Review and Meta-analysis. *Sports Medicine (Auckland, N.z)*. 2015;45:1721-1738. doi:10.1007/s40279-015-0375-y.
- Lesinski M, Prieske O, Granacher U. Effects and dose-response relationships of resistance training on physical performance in youth athletes: a systematic review and meta-analysis. *Br J Sports Med*. 2016 Feb 5. pii: bjsports-2015-095497. doi: 10.1136/bjsports-2015-095497. [Epub ahead of print]
- Lewis JS, Valentine RE. Clinical measurement of the thoracic kyphosis. A study of the intra-rater reliability in subjects with and without shoulder pain. *BMC Musculoskelet Disord*. 2010 Mar 1;11:39.
- Lewis JS, Valentine RE. The pectoralis minor length test: a study of the intra-rater reliability and diagnostic accuracy in subjects with and without shoulder symptoms. *BMC Musculoskelet Disord*. 2007 Jul 9;8:64.
- Lewis JS, Wright C, Green A. Subacromial Impingement Syndrome: The Effect of Changing Posture on Shoulder Range of Movement. *J Orthop Sports Phys Ther*. 2005;35:72-87.
- Lewis T, Cook J. Fluoroquinolones and Tendinopathy: A Guide for Athletes and Sports Clinicians and a Systematic Review of the Literature. *Journal of Athletic Training*. 2014;49(3):422-427.
- Lieber RL. *Skeletal Muscle Structure, Function and Plasticity*, 3rd Edition. Lippincott Williams & Wilkins. Baltimore: 2010.
- Light KE, Nuzik S, Personius W, Barstrom A. Low-load prolonged stretch vs. high-load brief stretch in treating knee contractures. *Phys Ther*. 1984 Mar;64(3):330-3.
- Lin H-T, Ko H-T, Lee K-C, Chen Y-C, Wang D-C. The changes in shoulder rotation strength ratio for various shoulder positions and speeds in the scapular plane between baseball players and non-players. *Journal of Physical Therapy Science*. 2015;27(5):1559-1563.
- Linley HS, Sled EA, Culham EG, Deluzio KJ. A biomechanical analysis of trunk and pelvis motion during gait in subjects with knee osteoarthritis compared to control subjects. *Clin Biomech (Bristol, Avon)*. 2010 Dec;25(10):1003-10.
- Liu D, Sartor MA, Nader GA, et al. Skeletal muscle gene expression in response to resistance exercise: sex specific regulation. *BMC Genomics* 2010 11:659.
- Löfgren M, Ekholm J, Broman L, Njoo P, Schult ML. Using a profile of a modified Brief ICF Core Set for chronic widespread musculoskeletal pain with qualifiers for baseline assessment in interdisciplinary pain rehabilitation. *J Multidiscip Healthc*. 2013 Aug 28;6:311-21.
- Logerstedt DS, Snyder-Mackler L, Ritter RC, Axe MJ, Godges JJ. Knee Stability and Movement Coordination Impairments: Knee Ligament Sprain: Clinical Practice Guidelines Linked to the International Classification of Functioning, Disability, and Health from the Orthopaedic Section of the American Physical Therapy Association. *The Journal of orthopaedic and sports physical therapy*. 2010;40(4):A1-A37. doi:10.2519/jospt.2010.0303.
- Long A, Donelson R, Fung T. Does it matter which exercise? A randomized control trial of exercise for low back pain. *Spine (Phila Pa 1976)*. 2004 Dec 1;29(23):2593-602.
- Lopez EI, Smoliga JM, Zavorsky GS. The effect of passive versus active recovery on power output over six repeated wingate sprints. *Res Q Exerc Sport*. 2014 Dec;85(4):519-26.
- Lorås H, Østerås B, Torstensen TA, Østerås H. Medical Exercise Therapy for Treating Musculoskeletal Pain: A Narrative Review of Results from Randomized Controlled Trials with a Theoretical Perspective. *Physiother Res Int*. 2015 May 25.
- Lorenz D, Reiman M. The role and implementation of eccentric training in athletic rehabilitation: tendinopathy, hamstring strains, and acl reconstruction. *International Journal of Sports Physical Therapy*. 2011;6(1):27-44.
- Lovell DI, Cuneo R, Gass GC. The effect of strength training and short-term detraining on maximum force and the rate of force development of older men. *Eur J Appl Physiol*. 2010;109(3):429-35.
- Luk JK, Tsang RC, Leung HB. Lateral epicondylalgia: midlife crisis of a tendon. *Hong Kong Med J*. 2014 Apr;20(2):145-51.

- Luria S, Apt E, Kandel L, Bdolah-Abram T, Zinger G. Visual estimation of pro-supination angle is superior to wrist or elbow angles. *Phys Sportsmed*. 2015 May;43(2):155-60.
- Macadam P, Cronin J, Contreras B. AN EXAMINATION OF THE GLUTEAL MUSCLE ACTIVITY ASSOCIATED WITH DYNAMIC HIP ABDUCTION AND HIP EXTERNAL ROTATION EXERCISE: A SYSTEMATIC REVIEW. *International Journal of Sports Physical Therapy*. 2015;10(5):573-591.
- MacDermid JC, Walton DM, Avery S, et al. Measurement properties of the neck disability index: a systematic review. *J Orthop Sports Phys Ther*. 2009 May;39(5):400-17.
- Macedo LG, Smeets RJ, Maher CG, Latimer J, McAuley JH. Graded activity and graded exposure for persistent nonspecific low back pain: a systematic review. *Phys Ther*. 2010 Jun;90(6):860-79.
- Magalhães FEX, Junior AR de M, Meneses HT de S, et al. Comparison of the effects of hamstring stretching using proprioceptive neuromuscular facilitation with prior application of cryotherapy or ultrasound therapy. *Journal of Physical Therapy Science*. 2015;27(5):1549-1553. doi:10.1589/jpts.27.1549.
- Makofsky H, Panicker S, Abbruzzese J, Aridas C, Camp M, et al. Immediate Effect of Grade IV Inferior Hip Joint Mobilization on Hip Abductor Torque: A Pilot Study.
- Makofsky HW, Douris P, Goldstein LB, et al. The effect of the PostureJac on deep cervical flexor endurance: implications in the management of cervicogenic headache and mechanical neck pain. *Cranio*. 2011 Jul;29(3):187-93.
- Maldonado DC, Silva MC, Neto SE, de Souza MR, de Souza RR. The effects of joint immobilization on articular cartilage of the knee in previously exercised rats. *J Anat*. 2013 Mar 11. doi: 10.1111/joa.12036. [Epub ahead of print]
- Manca, A., Cabboi, M. P., Ortu, E., Ginatempo, F., Dragone, D., et al. Effect of Contralateral Strength Training on Muscle Weakness in People With Multiple Sclerosis: Proof-of-Concept Case Series. *Physical Therapy*. 2016; 96(6), 828-838.
- Marcora SM1, Staiano W, Manning V. Mental fatigue impairs physical performance in humans. *J Appl Physiol* (1985). 2009 Mar;106(3):857-64.
- Markworth JF, Vella L, Lingard BS, et al. Human inflammatory and resolving lipid mediator responses to resistance exercise and ibuprofen treatment. *American Journal of Physiology - Regulatory, Integrative and Comparative Physiology*. 2013;305(11):R1281-R1296.
- Martin RM, Fish DE. Scapular winging: anatomical review, diagnosis, and treatments. *Current Reviews in Musculoskeletal Medicine*. 2008;1(1):1-11.
- Masarcchio M, Cleland JA, Hellman M, Hagins M. Short-term combined effects of thoracic spine thrust manipulation and cervical spine nonthrust manipulation in individuals with mechanical neck pain: a randomized clinical trial. *J Orthop Sports Phys Ther*. 2013 Mar;43(3):118-27. doi: 10.2519/jospt.2013.4221. Epub 2012 Dec 7.
- Masarcchio M, Cleland JA, Hellman M, Hagins M. Short-term combined effects of thoracic spine thrust manipulation and cervical spine nonthrust manipulation in individuals with mechanical neck pain: a randomized clinical trial. *J Orthop Sports Phys Ther*. 2013 Mar;43(3):118-27.
- Maughan EF, Lewis JS. Outcome measures in chronic low back pain. *Eur Spine J*. 2010;19(9):1484-94.
- Mayhew JL, Brechue WF, Smith AE, Kemmler W, Lauber D, Koch AJ. Impact of testing strategy on expression of upper-body work capacity and one-repetition maximum prediction after resistance training in college-aged men and women. *J Strength Cond Res*. 2011;25(10):2796-807.
- McClure P, Balaicuis J, Heiland D, Broersma ME, Thorndike CK, Wood A. A randomized controlled comparison of stretching procedures for posterior shoulder tightness. *J Orthop Sports Phys Ther*. 2007 Mar;37(3):108-14.
- McClure PW, Michener LA. Staged Approach for Rehabilitation Classification: Shoulder Disorders (STAR-Shoulder). *Phys Ther*. 2015 May;95(5):791-800.
- McGill SM, Childs A, Liebenson C. Endurance times for low back stabilization exercises: clinical targets for testing and training from a normal database. *Arch Phys Med Rehabil*. 1999 Aug;80(8):941-4.
- McKeran RO, Slavina G, Andrews TM, Ward P, Mair WG. Muscle fibre type changes in hypothyroid myopathy. *J Clin Pathol*. 1975 August; 28(8): 659-663.
- McLean SM, Klaber Moffett JA, Sharp DM, Gardiner EA. A randomised controlled trial comparing graded exercise treatment and usual physiotherapy for patients with non-specific neck pain (the GET UP neck pain trial). *Man Ther*. 2013 Jun;18(3):199-205.
- McMahon PJ, Jobe FW, Pink MM, Brault JR, Perry J. Comparative electromyographic analysis of shoulder muscles during planar motions: anterior glenohumeral instability versus normal. *J Shoulder Elbow Surg*. 1996 Mar-Apr;5(2 Pt 1):118-23.
- McVeigh KH, Murray PM, Heckman MG, Rawal B, Peterson JJ. Accuracy and Validity of Goniometer and Visual Assessments of Angular Joint Positions of the Hand and Wrist. *J Hand Surg Am*. 2016 Apr;41(4):e21-35
- Meierbachtol A, Yungtum W, Paur E, Bottoms J, Chmielewski TL. Psychological and Functional Readiness for Sport Following Advanced Group Training in Patients With Anterior Cruciate Ligament Reconstruction. *J Orthop Sports Phys Ther*. 2018 Nov;48(11):864-872.
- Michener LA, Boardman ND, Pidcoe PE, Frith AM. Scapular muscle tests in subjects with shoulder pain and functional loss: reliability and construct validity. *Phys Ther*. 2005 Nov;85(11):1128-38.

- Michener LA, Walsworth MK, Burnet EN. Effectiveness of rehabilitation for patients with subacromial impingement syndrome: a systematic review. *J Hand Ther.* 2004;17(2):152-164.
- Millan M, Leboeuf-Yde C, Budgell B, Descarreaux M, Amorim MA. The effect of spinal manipulative therapy on spinal range of motion: a systematic literature review. *Chiropr Man Therap.* 2012 Aug 6;20(1):23.
- Miller J, Gross A, D'Sylva J, et al. Manual therapy and exercise for neck pain: A systematic review. *Manual Therapy.* 15(2010):334 – 354.
- Miltner O, Siebert CH, Müller-Rath R, Kieffer O. Muscle strength of the cervical and lumbar spine in triathletes. *Z Orthop Unfall.* 2010 Dec;148(6):657-61.
- Minshull C, Gleeson N. Considerations of the Principles of Resistance Training in Exercise Studies for the Management of Knee Osteoarthritis: A Systematic Review. *Arch Phys Med Rehabil.* 2017 Sep;98(9):1842-1851.
- Mintken PE, Cleland JA, Carpenter KJ, et al. Some factors predict successful short-term outcomes in individuals with shoulder pain receiving cervicothoracic manipulation: a single-arm trial. *Phys Ther.* 2010;90:26–42.
- Mobbs RJ, Phan I, Maharaj M, Rao PJ. Physical Activity Measured with Accelerometer and Self-Rated Disability in Lumbar Spine Surgery: A Prospective Study. *Global Spine J.* 2016 Aug;6(5):459-64.
- Moreau CE, Green BN, Johnson CD, Moreau SR. Isometric back extension endurance tests: a review of the literature. *J Manipulative Physiol Ther.* 2001 Feb;24(2):110-22.
- Moreau CE, Green BN, Johnson CD, Moreau SR. Isometric back extension endurance tests: a review of the literature. *J Manipulative Physiol Ther* 2001;24:110–22.
- Moreland J, Finch E, Stratford P, Balsor B, Gill C. Interrater reliability of six tests of trunk muscle function and endurance. *J Orthop Sports Phys Ther.* 1997 Oct;26(4):200-8.
- Moriyama H, Tobimatsu Y, Ozawa J, Kito N, Tanaka R. Amount of Torque and Duration of Stretching Affects Correction of Knee Contracture in a Rat Model of Spinal Cord Injury. *Clinical Orthopaedics and Related Research.* 2013;471(11):3626-3636. doi:10.1007/s11999-013-3196-z.
- Mostafavifar M, Wertz J, Borchers J. A systematic review of the effectiveness of kinesio taping for musculoskeletal injury. *Phys Sportsmed.* 2012 Nov;40(4):33-40. doi: 10.3810/psm.2012.11.1986.
- Mourcou Q, Fleury A, Diot B, Franco C, Vuillerme N. Mobile Phone-Based Joint Angle Measurement for Functional Assessment and Rehabilitation of Proprioception. *BioMed Research International.* 2015;2015:328142.
- Muraki T, Aoki M, Izumi T, Fujii M, Hidaka E, Miyamoto S. Lengthening of the pectoralis minor muscle during passive shoulder motions and stretching techniques: a cadaveric biomechanical study. *Phys Ther.* 2009 Apr;89(4):333-41.
- Nagrale AV, Patil SP, Gandhi RA, Learman K. Effect of slump stretching versus lumbar mobilization with exercise in subjects with non-radicular low back pain: a randomized clinical trial. *The Journal of Manual & Manipulative Therapy.* 2012;20(1):35-42.
- Naugle KM, Fillingim RB, Riley JLA meta-analytic review of the hypoalgesic effects of exercise. *J Pain.* 2012 Dec;13(12):1139-50. doi: 10.1016/j.jpain.2012.09.006. Epub 2012 Nov 8.
- Nederhand MJ, Hermens HJ, IJzerman MJ, Groothuis KG, Turk DC. The effect of fear of movement on muscle activation in posttraumatic neck pain disability. *Clin J Pain.* 2006 Jul-Aug;22(6):519-25.
- Nederhand MJ, Hermens HJ, IJzerman MJ, Turk DC, Zilvold G. Chronic neck pain disability due to an acute whiplash injury. *Pain.* 2003 Mar;102(1-2):63-71.
- Nederhand MJ, IJzerman MJ, Hermens HJ, Turk DC, Zilvold G. Predictive value of fear avoidance in developing chronic neck pain disability: consequences for clinical decision making. *Arch Phys Med Rehabil.* 2004 Mar;85(3):496-501.
- Nelson RT. A Comparison of the Immediate Effects of Eccentric Training vs Static Stretch on Hamstring Flexibility in High School and College Athletes. *North American Journal of Sports Physical Therapy : NAJSPT.* 2006;1(2):56-61.
- Nesterenko S, Domire ZJ, Morrey BF, Sanchez-Sotelo J. Elbow strength and endurance in patients with a ruptured distal biceps tendon. *J Shoulder Elbow Surg.* 2010 Mar;19(2):184-9.
- Neuman DA. *Kinesiology of the Musculoskeletal System: Foundations for Physical Rehabilitation.* Mosby. St. Louis. 2002.
- Neumann DA1, Soderberg GL, Cook TM. Comparison of maximal isometric hip abductor muscle torques between hip sides. *Phys Ther.* 1988 Apr;68(4):496-502.
- Ng JK, Richardson CA, Parnianpour M, Kippers V. EMG activity of trunk muscles and torque output during isometric axial rotation exertion: a comparison between back pain patients and matched controls. *J Orthop Res.* 2002 Jan;20(1):112-21.
- Nicola F, Catherine S. Dose-response relationship of resistance training in older adults: a meta-analysis. *Br J Sports Med.* 2011 Mar;45(3):233-4. Epub 2011 Jan 21.
- Nied RJ, Franklin B. Promoting and Prescribing Exercise for the Elderly. *Am Fam Physician.* (2002);65:419-26,427-8.
- Nóbrega SR, Libardi CA. Is Resistance Training to Muscular Failure Necessary?. *Front Physiol.* 2016;7:10.

- Nsitem V. Diagnosis and rehabilitation of gastrocnemius muscle tear: a case report. *The Journal of the Canadian Chiropractic Association*. 2013;57(4):327-333.
- O'Neill S, Watson PJ, Barry S. Why are eccentric exercises effective for achilles tendinopathy? *International Journal of Sports Physical Therapy*. 2015;10(4):552-562.
- O'Sullivan K, Murray E, Sainsbury D. The effect of warm-up, static stretching and dynamic stretching on hamstring flexibility in previously injured subjects. *BMC Musculoskeletal Disorders*. 2009;10:37. doi:10.1186/1471-2474-10-37.
- Ohya T, Aramaki Y, Kitagawa K. (2013) Effect of duration of active or passive recovery on performance and muscle oxygenation during intermittent sprint cycling exercise. *Int J Sports Med*. 2013 Jul;34(7):616-22.
- Ojha HA, Wyrsta NJ, Davenport TE, Egan WE, Gellhorn AC. Timing of Physical Therapy Initiation for Nonsurgical Management of Musculoskeletal Disorders and Effects on Patient Outcomes: A Systematic Review. *J Orthop Sports Phys Ther*. 2016 Feb;46(2):56-70.
- Ojha HA, Wyrsta NJ, Davenport TE, Egan WE, Gellhorn AC. Timing of Physical Therapy Initiation for Nonsurgical Management of Musculoskeletal Disorders and Effects on Patient Outcomes: A Systematic Review. *J Orthop Sports Phys Ther*. 2016 Feb;46(2):56-70.
- O'Keefe M, Cullinane P, Hurley J, Leahy I, Bunzli S, et al. What Influences Patient-Therapist Interactions in Musculoskeletal Physical Therapy? Qualitative Systematic Review and Meta-Synthesis. *Phys Ther*. 2016 May;96(5):609-22. doi: 10.2522/ptj.20150240.
- O'Leary S, Falla D, Elliott JM, Jull G. Muscle dysfunction in cervical spine pain: implications for assessment and management. *J Orthop Sports Phys Ther*. 2009 May;39(5):324-33.
- O'Leary S, Falla D, Jull G, Vicenzino B. Muscle specificity in tests of cervical flexor muscle performance. *J Electromyogr Kinesiol*. 2007 Feb;17(1):35-40. Epub 2006 Jan 19.
- Omar M, Haas P, Ettinger M, Krettek C, Petri M. Simultaneous Bilateral Quadriceps Tendon Rupture following Long-Term Low-Dose Nasal Corticosteroid Application. *Case Reports in Orthopedics*. 2013;2013:657845.
- Ordway NR, Seymour RJ, Donelson RG, Hojnowski LS, Edwards WT. Cervical flexion, extension, protrusion, and retraction. A radiographic segmental analysis. *Spine*. 1999 Feb 1;24(3):240-7.
- Osterås B, Osterås H, Torsensen TA. Long-term effects of medical exercise therapy in patients with patellofemoral pain syndrome: Results from a single-blinded randomized controlled trial with 12 months follow-up. *Physiotherapy*. 2013 Jun 10. pii: S0031-9406(13)00030-8.
- Østerås B, Østerås H, Torstensen TA, Vasseljen O. Dose-response effects of medical exercise therapy in patients with patellofemoral pain syndrome: a randomised controlled clinical trial. *Physiotherapy*. 2013 Jun;99(2):126-31.
- Osterås H, Osterås B, Torstensen TA. Is postoperative exercise therapy necessary in patients with degenerative meniscus? A randomized controlled trial with one year follow-up. *Knee Surg Sports Traumatol Arthrosc*. 2012 Dec 23. [Epub ahead of print]
- Osteras H, Osteras B, Torstensen TA. Medical Exercise Therapy is Effective After Arthroscopic Surgery of Degenerative Meniscus of the Knee: A Randomized Controlled Trial. *J Clin Med Res*. 2012 Dec;4(6):378-84.
- Østerås H, Østerås B, Torstensen TA. Medical exercise therapy, and not arthroscopic surgery, resulted in decreased depression and anxiety in patients with degenerative meniscus injury. *J Bodyw Mov Ther*. 2012 Oct;16(4):456-63. doi: 10.1016/j.jbmt.2012.04.003. Epub 2012 May 4.
- Osteras H, Torstensen TA. The Dose-Response Effect of Medical Exercise Therapy on Impairment in Patients with Unilateral Longstanding Subacromial Pain. *The Open Orthopaedics Journal*, 2010, 4, 1-6 1.
- O'Sullivan K, McAuliffe S, Deburca N. The effects of eccentric training on lower limb flexibility: a systematic review. *Br J Sports Med*. 2012 Sep;46(12):838-45. doi: 10.1136/bjsports-2011-090835. Epub 2012 Apr 20.
- O'Sullivan P, Grahmslaw KM, Kendell M, et al. The effect of different standing and sitting postures on trunk muscle activity in a pain-free population. *Spine (Phila Pa 1976)*. 2002 Jun 1;27(11):1238-44.
- O'Sullivan PB, Caneiro JP, O'Keefe M, et al. Cognitive Functional Therapy: An Integrated Behavioral Approach for the Targeted Management of Disabling Low Back Pain. *Phys Ther*. 2018 May 1;98(5):408-423.
- Ottawa panel. Evidence-based clinical practice guidelines for therapeutic exercises and manual therapy in the management of osteoarthritis. *Phys Ther*. 2005 Sep;85(9):907-71.
- Ouellette KA1, Brusseau TA, Davidson LE, Ford CN, Hatfield DL, Shaw JM, Eisenman PA. Comparison of the Effects of Seated, Supine, and Walking Interset Rest Strategies on Work Rate. *J Strength Cond Res*. 2016 Dec;30(12):3396-3404.
- Page MJ, Green S, Kramer S, Johnston RV, McBain B, Chau M, Buchbinder R. Manual therapy and exercise for adhesive capsulitis (frozen shoulder). *Cochrane Database Syst Rev*. 2014 Aug 26;8:CD011275.
- Page P. CURRENT CONCEPTS IN MUSCLE STRETCHING FOR EXERCISE AND REHABILITATION. *International Journal of Sports Physical Therapy*. 2012;7(1):109-119.
- Panjabi MM. The stabilizing system of the spine. Part II. Neutral zone and instability hypothesis. *J Spinal Disord*. 1992 Dec;5(4):390-6; discussion 397.

- Parfrey K, Gibbons SG, Drinkwater EJ, Behm DG. Effect of head and limb orientation on trunk muscle activation during abdominal hollowing in chronic low back pain. *BMC Musculoskeletal Disorders*. 2014;15:52.
- Park DJ, Lee SK. What is a Suitable Pressure for the Abdominal Drawing-in Maneuver in the Supine Position Using a Pressure Biofeedback Unit? *J Phys Ther Sci*. 2013 May;25(5):527-30. doi: 10.1589/jpts.25.527
- Parker BA, Capizzi JA, Grimaldi AS, et al. The Effect of Statins on Skeletal Muscle Function. *Circulation*. 2013;127(1):96-103.
- Patel KC, Gross A, Graham N, et al. Massage for mechanical neck disorders. *Cochrane Database Syst Rev*. 2012 Sep 12;9:CD004871.
- Paul A, Rajkumar JS, Peter S, Lambert L. Effectiveness of Sustained Stretching of the Inferior Capsule in the Management of a Frozen Shoulder. *Clinical Orthopaedics and Related Research*. 2014;472(7):2262-2268.
- Paungmali A, O'Leary S, Souvlis T, Vicenzino B. Hypoalgesic and sympathoexcitatory effects of mobilization with movement for lateral epicondylalgia. *Phys Ther*. 2003 Apr;83(4):374-83.
- Pearson I, Reichert A, De Serres SJ, Dumas JP, Côté JN. Maximal voluntary isometric neck strength deficits in adults with whiplash-associated disorders and association with pain and fear of movement. *J Orthop Sports Phys Ther*. 2009 Mar;39(3):179-87.
- Pedersen MT, Andersen LL, Jørgensen MB, Sjøgaard K, Sjøgaard G. Effect of specific resistance training on musculoskeletal pain symptoms: dose-response relationship. *J Strength Cond Res*. 2013 Jan;27(1):229-35.
- Peters PG, Herbenick MA, Anloague PA, Markert RJ, Rubino LJ 3rd. Knee range of motion: reliability and agreement of 3 measurement methods. *Am J Orthop* 2011 Dec;40(12):E249-52.
- Petersen J, Hölmich P. Evidence based prevention of hamstring injuries in sport. *Br J Sports Med*. 2005 Jun;39(6):319-23.
- Peterson MD, Rhea MR, Alvar BA. Applications of the dose-response for muscular strength development: a review of meta-analytic efficacy and reliability for designing training prescription. *J Strength Cond Res*. 2005 Nov;19(4):950-8.
- Petrofsky JS, Phillips CA. The strength-endurance relationship in skeletal muscle: its application to helmet design. *Aviat Space Environ Med*. 1982;53(4):365-9.
- Pettman E. The functional shoulder girdle. In *International Federation of Orthopaedic Manipulative Therapists (IFOMT) Proceedings*. June 1984 Vancouver, B.C., p 81. Gilrairie & Sweeting ed.
- Philadelphia Panel. Philadelphia Panel evidence-based clinical practice guidelines on selected rehabilitation interventions for shoulder pain. *Phys Ther*. 2001 Oct;81(10):1719-30.
- Philadelphia Panel. Philadelphia Panel evidence-based clinical practice guidelines on selected rehabilitation interventions for neck pain. *Phys Ther*. 2001 Oct;81(10):1701-17.
- Phillips BA, Lo SK, Mastaglia FL. Muscle force measured using "break" testing with a hand-held myometer in normal subjects aged 20 to 69 years. *Arch Phys Med Rehabil*. 2000;81:653-661.
- Pillastrini P, Ferrari S, Rattin S, Cupello A, Villafañe JH, Vanti C. Exercise and tropism of the multifidus muscle in low back pain: a short review. *Journal of Physical Therapy Science*. 2015;27(3):943-945.
- Pinto D, Robertson MC, Abbott JH, Hansen P, Campbell AJ. Manual therapy, exercise therapy, or both, in addition to usual care, for osteoarthritis of the hip or knee. 2: economic evaluation alongside a randomized controlled trial. *Osteoarthritis Cartilage*. 2013 Oct;21(10):1504-13.
- Pontaga I. Ankle joint evertor-invertor muscle torque ratio decrease due to recurrent lateral ligament sprains. *Clin Biomech (Bristol, Avon)*. 2004 Aug;19(7):760-2.
- POWERS SK, JACKSON MJ. Exercise-Induced Oxidative Stress: Cellular Mechanisms and Impact on Muscle Force Production. *Physiological reviews*. 2008;88(4):1243-1276.
- Prior M, Guerin M, Grimmer K. An Evidence-Based Approach to Hamstring Strain Injury: A Systematic Review of the Literature. *Sports Health*. 2009;1(2):154-164.
- Puentedura EJ, Cleland JA, Landers MR, et al. Development of a clinical prediction rule to identify patients with neck pain likely to benefit from thrust joint manipulation to the cervical spine. *J Orthop Sports Phys Ther*. 2012;42(7):577-92.
- Quek J, Pua YH, Clark RA, Bryant AL. Effects of thoracic kyphosis and forward head posture on cervical range of motion in older adults. *Man Ther*. 2013 Feb;18(1):65-71.
- Rabin A, Shashua A, Pizem K, Dar G. The interrater reliability of physical examination tests that may predict the outcome or suggest the need for lumbar stabilization exercises. *J Orthop Sports Phys Ther*. 2013 Feb;43(2):83-90. doi: 10.2519/jospt.2013.4310. Epub 2013 Jan 14.
- Rabin A, Shashua A, Pizem K, Dickstein R, Dar G. A clinical prediction rule to identify patients with low back pain who are likely to experience short-term success following lumbar stabilization exercises: a randomized controlled validation study. *J Orthop Sports Phys Ther*. 2014 Jan;44(1):6-B13.
- Rabinovich R, Vilaró J. Structural and Functional Changes of Peripheral Muscles in COPD Patients. *Curr Opin Pulm Med*. 2010 March; 16(2): 123-133.

- Rachkidi R, Ghanem I, Kalouche I, et al. Is visual estimation of passive range of motion in the pediatric lower limb valid and reliable? *BMC Musculoskelet Disord*. 2009 Oct 12;10:126.
- Radaelli R, Botton CE, Wilhelm EN, Bottaro M, Lacerda F, Gaya A, Moraes K, Peruzzolo A, Brown LE, Pinto RS. Low- and high-volume strength training induces similar neuromuscular improvements in muscle quality in elderly women. *Exp Gerontol*. 2013 Apr 19.
- Rahmann AE. Exercise for people with hip or knee osteoarthritis: a comparison of land-based and aquatic interventions. *Open Access Journal of Sports Medicine*. 2010;1:123-135.
- Raman J, MacDermid JC, Grewal R. Effectiveness of different methods of resistance exercises in lateral epicondylitis--a systematic review. *J Hand Ther*. 2012 Jan-Mar;25(1):5-25; quiz 26.
- Raney NH, Petersen EJ, Smith TA, et al. Development of a clinical prediction rule to identify patients with neck pain likely to benefit from cervical traction and exercise. *Eur Spine J*. 2009 Mar;18(3):382-91.
- Raney NH, Teyhen DS, Childs JD. Observed changes in lateral abdominal muscle thickness after spinal manipulation: a case series using rehabilitative ultrasound imaging. *J Orthop Sports Phys Ther*. 2007 Aug;37(8):472-9.
- Rebeck T. The Role of Exercise and Patient Education in the Noninvasive Management of Whiplash. *J Orthop Sports Phys Ther*. 2017 Jul;47(7):481-491.
- Reid KF, Callahan DM, Carabello RJ, Phillips EM, Frontera WR, Fielding RA. Lower extremity power training in elderly subjects with mobility limitations: a randomized controlled trial. *Aging clinical and experimental research*. 2008;20(4):337-343.
- Reid KF, Fielding RA. Skeletal muscle power: a critical determinant of physical functioning in older adults. *Exerc Sport Sci Rev*. 2012 Jan;40(1):4-12.
- Reid KF, Martin KI, Doros G, et al. Comparative Effects of Light or Heavy Resistance Power Training for Improving Lower Extremity Power and Physical Performance in Mobility-Limited Older Adults. *The Journals of Gerontology Series A: Biological Sciences and Medical Sciences*. 2015;70(3):372-378.
- Reid KF, Pasha E, Doros G, et al. Longitudinal decline of lower extremity muscle power in healthy and mobility-limited older adults: influence of muscle mass, strength, composition, neuromuscular activation and single fiber contractile properties. *European journal of applied physiology*. 2014;114(1):29-39.
- Reiman MP, Lorenz DS. Integration of strength and conditioning principles into a rehabilitation program. *International Journal of Sports Physical Therapy*. 2011;6(3):241-253.
- Reiman MP, Matheson JW. Restricted hip mobility: clinical suggestions for self-mobilization and muscle re-education. *International Journal of Sports Physical Therapy*. 2013;8(5):729-740.
- Reinold MM, Macrina LC, Wilk KE, et al. Electromyographic Analysis of the Supraspinatus and Deltoid Muscles During 3 Common Rehabilitation Exercises. *Journal of Athletic Training*. 2007;42(4):464-469.
- Reinold MM, Macrina LC, Wilk KE, Fleisig GS, Dun S, Barrentine SW, Ellerbusch MT, Andrews JR. Electromyographic analysis of the supraspinatus and deltoid muscles during 3 common rehabilitation exercises. *J Athl Train*. 2007 Oct-Dec;42(4):464-9.
- Reinold MM, Wilk KE, Fleisig GS, Zheng N, Barrentine SW, Chmielewski T, Cody RC, Jameson GG, Andrews JR. Electromyographic analysis of the rotator cuff and deltoid musculature during common shoulder external rotation exercises. *J Orthop Sports Phys Ther*. 2004 Jul;34(7):385-94.
- Revel M, Minguet M, Gregoy P, Vaillant J, Manuel JL. Changes in cervicocephalic kinesthesia after a proprioceptive rehabilitation program in patients with neck pain: a randomized controlled study. *Arch Phys Med Rehabil*. 1994 Aug;75(8):895-9.
- Rezasoltani A, Ahmadi A, Nehzate-Khoshroo M, Forohideh F, Ylinen J. Cervical muscle strength measurement in two groups of elite Greco-Roman and free style wrestlers and a group of nonathletic subjects. *Br J Sports Med* 2005;39:440-443.
- Rezasoltani A, Ali-Reza A, Khosro KK, Abbass R. Preliminary study of neck muscle size and strength measurements in females with chronic non-specific neck pain and healthy control subjects. *Man Ther*. 2010 Aug;15(4):400-3.
- Rio E, Kidgell J, Purdam C, Gaida J, et al. Isometric exercise induces analgesia and reduces inhibition in patellar tendinopathy. *Br J Sports Med*. 2015 Oct;49(19):1277-83. doi: 10.1136/bjsports-2014-094386. Epub 2015 May 15.
- Rio E, van Ark M, Docking S, et al. Isometric Contractions Are More Analgesic Than Isotonic Contractions for Patellar Tendon Pain: An In-Season Randomized Clinical Trial. *Clin J Sport Med*. 2017 May;27(3):253-259.
- Rønnestad BR, Egeland W, Kvamme NH, Refsnes PE, Kadi F, Raastad T. Dissimilar effects of one- and three-set strength training on strength and muscle mass gains in upper and lower body in untrained subjects. *J Strength Cond Res*. 2007 Feb;21(1):157-63.
- Roos EM, Dahlberg L. Positive effects of moderate exercise on glycosaminoglycan content in knee cartilage: a four-month, randomized, controlled trial in patients at risk of osteoarthritis. *Arthritis Rheum*. 2005 Nov;52(11):3507-14.
- Roos EM, Dahlberg L. Positive effects of moderate exercise on glycosaminoglycan content in knee cartilage: a four-month, randomized, controlled trial in patients at risk of osteoarthritis. *Arthritis Rheum*. 2005 Nov;52(11):3507-14.
- Ropponen A, Gibbons LE, Videman T, Battié MC. Isometric back extension endurance testing: reasons for test termination. *J Orthop Sports Phys Ther*. 2005 Jul;35(7):437-42.

- Rosa, DP. et al. Effects of a stretching protocol for the pectoralis minor on muscle length, function, and scapular kinematics in individuals with and without shoulder pain. *Journal of Hand Therapy*. 2017; 30(1):20 - 29.
- Rudroff T, Justice JN, Holmes MR, Matthews SD, Enoka RM. Muscle activity and time to task failure differ with load compliance and target force for elbow flexor muscles. *Journal of Applied Physiology*. 2011;110(1):125-136. doi:10.1152/jappphysiol.00605.2010.
- Ryschon TW, Fowler MD, Wysong RE, Anthony A, Balaban RS. Efficiency of human skeletal muscle in vivo: comparison of isometric, concentric, and eccentric muscle action. *J Appl Physiol* (1985). 1997 Sep;83(3):867-74.
- S. Pal, Design of Artificial Human Joints & Organs, 23 DOI 10.1007/978-1-4614-6255-2_2, © Springer Science+Business Media New York 2014
- Saeterbakken AH, Fimland MS. Muscle activity of the core during bilateral, unilateral, seated and standing resistance exercise. *Eur J Appl Physiol*. 2012 May;112(5):1671-8.
- Salo P, Ylönen-Käyrä N, Häkkinen A, et al. Effects of long-term home-based exercise on health-related quality of life in patients with chronic neck pain: a randomized study with a 1-year follow-up. *Disabil Rehabil*. 2012;34(23):1971-7.
- Salo PK, Häkkinen AH, Kautiainen H, Ylinen JJ. Effect of neck strength training on health-related quality of life in females with chronic neck pain: a randomized controlled 1-year follow-up study. *Health Qual Life Outcomes*. 2010 May 14;8:48.
- Salo PK, Ylinen JJ, Mälikä EA, Kautiainen H, Häkkinen AH. Isometric strength of the cervical flexor, extensor, and rotator muscles in 220 healthy females aged 20 to 59 years. *J Orthop Sports Phys Ther*. 2006 Jul;36(7):495-502.
- Sánchez-Medina L, González-Badillo JJ. Velocity loss as an indicator of neuromuscular fatigue during resistance training. *Med Sci Sports Exerc*. 2011 Sep;43(9):1725-34.
- Sargeant AJ, de Haan A. Human muscle fatigue: the significance of muscle fibre type variability studied using a micro-dissection approach. *J Physiol Pharmacol*. 2006 Nov;57 Suppl 10:5-16.
- Sasso JP, Eves ND, Christensen JF, Koelwyn GJ, Scott J, Jones LW. A framework for prescription in exercise-oncology research. *Journal of Cachexia, Sarcopenia and Muscle*. 2015;6(2):115-124.
- Savva N, McAllen CJ, Giddins GE. The relationship between the strength of supination of the forearm and rotation of the shoulder. *J Bone Joint Surg Br*. 2003 Apr;85(3):406-7.
- Schache A. Eccentric hamstring muscle training can prevent hamstring injuries in soccer players. *J Physiother*. 2012;58(1):58.
- Schikora N, Eysel-Gosepath K, Klünter H, Delank S, Guntinas-Lichius O. Influence of cervical spine stabilization via Stiff Neck on the postural system in healthy patients: compensation or decompensation of the postural system? *Eur Arch Otorhinolaryngol*. 2010 Oct;267(10):1623-8. doi: 10.1007/s00405-010-1264-5. Epub 2010 May 5.
- Schillings ML, Hoefsloot W, Stegeman DF, Zwarts MJ. Relative contributions of central and peripheral factors to fatigue during a maximal sustained effort. *Eur J Appl Physiol*. 2003 Nov;90(5-6):562-8. Epub 2003 Aug 5.
- Schmitt WH, Cuthbert SC. Common errors and clinical guidelines for manual muscle testing: "the arm test" and other inaccurate procedures. *Chiropractic & Osteopathy*. 2008;16:16. doi:10.1186/1746-1340-16-16.
- Schomacher J, Petzke F, Falla D. Localised resistance selectively activates the semispinalis cervicis muscle in patients with neck pain. *Man Ther*. 2012 Dec;17(6):544-8.
- Sciascia A, Cromwell R. Kinetic Chain Rehabilitation: A Theoretical Framework. *Rehabilitation Research and Practice*. 2012;2012:853037.
- Sciascia A, Kuschinsky N, Nitz AJ, Mair SD, Uhl TL. Electromyographical comparison of four common shoulder exercises in unstable and stable shoulders. *Rehabil Res Pract*. 2012;2012:783824.
- Scott W, Stevens J, Binder-Macleod SA. Human skeletal muscle fiber type classifications. *Phys Ther*. 2001 Nov;81(11):1810-6.
- Seng KY, Lee Peter VS, Lam PM. Neck muscle strength across the sagittal and coronal planes: an isometric study. *Clin Biomech (Bristol, Avon)*. 2002 Aug;17(7):545-7.
- Seo D, Kim E, Fahs CA, et al. Reliability of the One-Repetition Maximum Test Based on Muscle Group and Gender. *Journal of Sports Science & Medicine*. 2012;11(2):221-225.
- Seo Y, Lee J, Han D. The effects of spinal mobilization with arm movements on shoulder muscle strengthening. *Journal of Physical Therapy Science*. 2015;27(1):11-13.
- Seroyer ST, Nho SJ, Bach BR, Bush-Joseph CA, Nicholson GP, Romeo AA. The Kinetic Chain in Overhand Pitching: Its Potential Role for Performance Enhancement and Injury Prevention. *Sports Health*. 2010;2(2):135-146.
- Shah KM et al. Early Development and Reliability of the Timed Functional Arm and Shoulder Test. *J Orthop Sports Phys Ther*. 2017 Jun;47(6):420-431.
- Shahidi B, Johnson CL, Curran-Everett D, Maluf KS. Reliability and group differences in quantitative cervicthoracic measures among individuals with and without chronic neck pain. *BMC Musculoskelet Disord*. 2012 Oct 31;13:215.
- Shelbourne KD, Biggs A, Gray T. Deconditioned Knee: The Effectiveness of a Rehabilitation Program that Restores Normal Knee Motion to Improve Symptoms and Function. *North American Journal of Sports Physical Therapy : NAJSPT*. 2007;2(2):81-89.

- Shelbourne KD, Freeman H, Gray T. Osteoarthritis After Anterior Cruciate Ligament Reconstruction: The Importance of Regaining and Maintaining Full Range of Motion. *Sports Health*. 2012;4(1):79-85. doi:10.1177/1941738111430201.
- Shephard RJ: Exercise and training in women. Part 1. Influence of gender on exercise and training responses, *Can J Appl Physiol*. 2000; 24:19-34.
- Shepherd JH, Screen HRC. Fatigue loading of tendon. *International Journal of Experimental Pathology*. 2013;94(4):260-270.
- Shima N, Ishida K, Katayama K, et al. Cross education of muscular strength during unilateral resistance training and detraining. *Eur J Appl Physiol* 2002;86:287-294.
- Shimamura KK, Cheatham S, Chung W, Farwell D, De la Cruz F, Goetz J, Lindblom K, Powers D. Regional interdependence of the hip and lumbopelvic region in division ii collegiate level baseball pitchers: a preliminary study. *Int J Sports Phys Ther*. 2015 Feb;10(1):1-12.
- Shirado O, Ito T, Kaneda K, Strax TE. Electromyographic analysis of four techniques for isometric trunk muscle exercises. *Arch Phys Med Rehabil* 1995;76:225-9.
- Shirey M, Hurlbutt M, Johansen N, King GW, Wilkinson SG, Hoover DL. THE INFLUENCE OF CORE MUSCULATURE ENGAGEMENT ON HIP AND KNEE KINEMATICS IN WOMEN DURING A SINGLE LEG SQUAT. *International Journal of Sports Physical Therapy*. 2012;7(1):1-12.
- Shiri R, Karppinen J, Leino-Arjas P, et al. Cardiovascular and lifestyle risk factors in lumbar radicular pain or clinically defined sciatica: a systematic review. *Eur Spine J*. 2007 Dec;16(12):2043-54. Epub 2007 May 25.
- Shrader JA, Popovich JM, Gracey GC, Danoff JV. Navicular Drop Measurement in People With Rheumatoid Arthritis: Interrater and Intrarater Reliability. *Physical Therapy*. 2005; 85(7), 656-664.
- Sihawong R, Janwantanakul P, Sitthipornvorakul E, Pensri P. Exercise therapy for office workers with nonspecific neck pain: a systematic review. *J Manipulative Physiol Ther*. 2011 Jan;34(1):62-71.
- Silder A, Sherry MA, Sanfilippo J, Tuite MJ, Hetzel SJ, Heiderscheid BC. Clinical and morphological changes following 2 rehabilitation programs for acute hamstring strain injuries: a randomized clinical trial. *J Orthop Sports Phys Ther*. 2013 May;43(5):284-99.
- Silverman JL, Rodriguez AA, Agre JC. Quantitative cervical flexor strength in healthy subjects and in subjects with mechanical neck pain. *Arch Phys Med Rehabil*. 1991 Aug;72(9):679-81.
- Sizer PS Jr1, Brismée JM, Cook C. Coupling behavior of the thoracic spine: a systematic review of the literature. *J Manipulative Physiol Ther*. 2007 Jun;30(5):390-9.
- Skalsky AJ, McDonald CM. Prevention and management of limb contractures in neuromuscular diseases. *Phys Med Rehabil Clin N Am*. 2012 Aug;23(3):675-87.
- Slade SC, Keating JL. Exercise prescription: a case for standardised reporting. *Br J Sports Med*. 2012 Dec;46(16):1110-3.
- Smidt N, de Vet HCW, Bouter LM, Dekker J. Effectiveness of exercise therapy: A best-evidence summary of systematic reviews. *Australian Journal of Physiotherapy*. 2005; 1: 71-85.
- Smit TH, van Tunen MS, van der Veen AJ, Kingma I, van Dieën JH. Quantifying intervertebral disc mechanics: a new definition of the neutral zone. *BMC Musculoskeletal Disorders*. 2011;12:38.
- Smith R Jr, Nyquist-Battie C, Clark M, Rains J. Anatomical characteristics of the upper serratus anterior: cadaver dissection. *J Orthop Sports Phys Ther*. 2003 Aug;33(8):449-54.
- So CH1, Siu TO, Chan KM, Chin MK, Li CT. Isokinetic profile of dorsiflexors and plantar flexors of the ankle—a comparative study of elite versus untrained subjects. *Br J Sports Med*. 1994 Mar;28(1):25-30.
- St Clair Gibson A, Lambert MI, Durandt JJ, Scales N, Noakes TD. Quadriceps and hamstrings peak torque ratio changes in persons with chronic anterior cruciate ligament deficiency. *J Orthop Sports Phys Ther*. 2000 Jul;30(7):418-27.
- Standaert CJ, Herring SA. Expert opinion and controversies in musculoskeletal and sports medicine: core stabilization as a treatment for low back pain. *Arch Phys Med Rehabil*. 2007 Dec;88(12):1734-6.
- Stanton TR, Hancock MJ, Maher CG, Koes BW. Critical appraisal of clinical prediction rules that aim to optimize treatment selection for musculoskeletal conditions. *Phys Ther*. 2010 Jun;90(6):843-54.
- Stastny P, Lehnert M, Zaatar A, Svoboda Z, Xaverova Z, Pietraszewski P. The Gluteus Medius Vs. Thigh Muscles Strength Ratio and Their Relation to Electromyography Amplitude During a Farmer's Walk Exercise. *Journal of Human Kinetics*. 2015;45:157-165.
- Staudte HW, Duhr N. Age- and sex-dependent force-related function of the cervical spine. *Eur Spine J*. 1994;3:155-161.
- Steenbrink F, Nelissen RG, Meskers CG, van de Sande MA, Rozing PM, de Groot JH. Teres major muscle activation relates to clinical outcome in tendon transfer surgery. *Clin Biomech (Bristol, Avon)*. 2010 Mar;25(3):187-93.
- Stevens EM Jr, Vos GA, Stephens JP, Moore JS. Inter-rater reliability of the strain index. *J Occup Environ Hyg*. 2004 Nov;1(11):745-51.
- Stone M, Plisk S, Collins D. Training principles: evaluation of modes and methods of resistance training—a coaching perspective. *Sports Biomech*. 2002 Jan;1(1):79-103.

- Strimpakos N, Georgios G, Eleni K, Vasiliou K, Jacqueline O. Issues in relation to the repeatability of and correlation between EMG and Borg scale assessments of neck muscle fatigue. *J Electromyogr Kinesiol.* 2005 Oct;15(5):452-65.
- Strimpakos N, Sakellari V, Gioftsos G, Oldham J. Intratester and intertester reliability of neck isometric dynamometry. *Arch Phys Med Rehabil* 2004;85:1309–16.
- Strimpakos N. The assessment of the cervical spine. Part 2: strength and endurance/fatigue. *J Bodyw Mov Ther.* 2011 Oct;15(4):417-30. Epub 2010 Oct 29. Review.
- Suehiro T, Mizutani M, Ishida H, Kobara K, Fujita D, Osaka H, Takahashi H, Watanabe S. Effect of abduction and external rotation of the hip joint on muscle onset time during prone hip extension with knee flexion. *J Phys Ther Sci.* 2015 Jan;27(1):289-91.
- Suehiro T, Mizutani M, Okamoto M, et al. Influence of Hip Joint Position on Muscle Activity during Prone Hip Extension with Knee Flexion. *Journal of Physical Therapy Science.* 2014;26(12):1895-1898.
- Swartz EE, Floyd RT, Cendoma M. Cervical Spine Functional Anatomy and the Biomechanics of Injury Due to Compressive Loading. *Journal of Athletic Training.* 2005;40(3):155-161.
- Szeto GP, Straker LM, O'Sullivan PB. A comparison of symptomatic and asymptomatic office workers performing monotonous keyboard work, 2: neck and shoulder kinematics. *Man Ther.* 2005;10: 281–291.
- Takasaki H, Hall T, Kaneko S, Iizawa T, Ikemoto Y. Cervical segmental motion induced by shoulder abduction assessed by magnetic resonance imaging. *Spine.* 2009 Feb 1;34(3):E122-6.
- Taylor AL, Wilken JM, Deyle GD, Gill NW. Knee extension and stiffness in osteoarthritic and normal knees: a videofluoroscopic analysis of the effect of a single session of manual therapy. *J Orthop Sports Phys Ther.* 2014 Apr;44(4):273-82.
- Taylor JL, Gandevia SC. A comparison of central aspects of fatigue in submaximal and maximal voluntary contractions. *J Appl Physiol* (1985). 2008 Feb;104(2):542-50. Epub 2007 Nov 21.
- Taylor NF, Dodd KJ, Shields N, Bruder A. Therapeutic exercise in physiotherapy practice is beneficial: a summary of systematic reviews 2002–2005. *Australian Journal of Physiotherapy.* 2007; 53: 7–16.
- Teichtahl A, Wluka A, Cicuttini F. Abnormal biomechanics: a precursor or result of knee osteoarthritis? *British Journal of Sports Medicine.* 2003;37(4):289-290.
- Teixeira PE, Piva SR, Fitzgerald GK. Effects of impairment-based exercise on performance of specific self-reported functional tasks in individuals with knee osteoarthritis. *Phys Ther.* 2011 Dec;91(12):1752-65.
- Teyhen DS, Rieger JL, Westrick RB, Miller AC, Molloy JM, Childs JD. Changes in deep abdominal muscle thickness during common trunk-strengthening exercises using ultrasound imaging. *J Orthop Sports Phys Ther.* 2008 Oct;38(10):596-605.
- Thoomes EJ, Scholten-Peeters W, Koes B, Falla D, Verhagen AP. The effectiveness of conservative treatment for patients with cervical radiculopathy: a systematic review. *Clin J Pain.* 2013 Dec;29(12):1073-86.
- Thorborg K, Kraemer O, Madsen AD, Hölmich P. Patient-Reported Outcomes Within the First Year After Hip Arthroscopy and Rehabilitation for Femoroacetabular Impingement and/or Labral Injury: The Difference Between Getting Better and Getting Back to Normal. *Am J Sports Med.* 2018 Sep;46(11):2607-2614.
- Thorborg K1, Petersen J, Magnusson SP, Hölmich P. *Scand J Med Sci Sports.* 2010 Jun;20(3):493-501. Clinical assessment of hip strength using a hand-held dynamometer is reliable.
- Torrance DA, deGraauw C. Treatment of post-traumatic myositis ossificans of the anterior thigh with extracorporeal shock wave therapy. *The Journal of the Canadian Chiropractic Association.* 2011;55(4):240-246.
- Torstensen TA, Koes B, Glomsrød E, Seifert L, Glomsrød B, Hagen O. The effect of conservative therapies on patients suffering from chronic low back pain. *Spine (Phila Pa 1976).* 1996 Mar 1;21(5):656-7.
- Torstensen TA, Meen HD, Stiris M. The effect of medical exercise therapy on a patient with chronic supraspinatus tendinitis. Diagnostic ultrasound--tissue regeneration: a case study. *J Orthop Sports Phys Ther.* 1994 Dec;20(6):319-27.
- Traeger AC, Lee H, Hübscher M, et al. Effect of Intensive Patient Education vs Placebo Patient Education on Outcomes in Patients With Acute Low Back Pain: A Randomized Clinical Trial. *JAMA Neurol.* 2018 Nov 5.
- Trampas A, Kitsios A. Exercise and manual therapy for the treatment of impingement syndrome of the shoulder: a systematic review. *Physical Therapy Reviews.* 2006; 11: 125–142.
- Turner N, Ferguson K, Mobley BW, Riemann B, Davies G. Establishing normative data on scapulothoracic musculature using handheld dynamometry. *J Sport Rehabil.* 2009 Nov;18(4):502-20.
- Tyler TF, Fukunaga T, Gellert J. Rehabilitation of soft tissue injuries of the hip and pelvis. *International Journal of Sports Physical Therapy.* 2014;9(6):785-797.
- Tyler TF, Nicholas SJ1, Schmitt BM1, Mullaney M2, Hogan DE. Clinical outcomes of the addition of eccentrics for rehabilitation of previously failed treatments of golfers elbow. *Int J Sports Phys Ther.* 2014 May;9(3):365-70.

- Udermann BE, Mayer JM, Graves JE, Murray SR. Quantitative assessment of lumbar paraspinal muscle endurance. *J Athl Train* 2003;38:259–62.
- Uh BS, Beynonn BD, Helie BV, Alosa DM, Renstrom PA. The benefit of a single-leg strength training program for the muscles around the untrained ankle. *Am J Sports Med.* 2000 Jul-Aug;28(4):568-73.
- Usuba M, Akai M, Shirasaki Y, Miyakawa S. Experimental joint contracture correction with low torque—long duration repeated stretching. *Clin Orthop Relat Res.* 2007 Mar;456:70-8.
- Valdes K, von der Heyde R. An exercise program for carpometacarpal osteoarthritis based on biomechanical principles. *J Hand Ther.* 2012 Jul-Sep;25(3):251-62.
- Van de Velde A, De Mey K, Maenhout A, Calders P, Cools AM. Scapular-muscle performance: two training programs in adolescent swimmers. 2011 Mar-Apr;46(2):160-7; discussion 168-9.
- van der Heijden RA, Vollebregt T, Bierma-Zeinstra SM1, van Middelkoop M Strength and Pain Threshold Handheld Dynamometry Test Reliability in Patellofemoral Pain. *Int J Sports Med.* 2015 Dec;36(14):1201-5.
- van Middelkoop M, Rubinstein SM, Ostelo R, et al. Surgery versus conservative care for neck pain: a systematic review. *Eur Spine J.* 2013 Jan;22(1):87-95.
- Van Onsem S, Verstraete M, Dhont S, et al. Improved walking distance and range of motion predict patient satisfaction after TKA. *Knee Surg Sports Traumatol Arthrosc.* 2018 Nov;26(11):3272-3279.
- Van Straaten MG, Cloud BA, Morrow MM, Ludewig PM, Zhao KD. Effectiveness of Home Exercise on Pain, Function, and Strength of Manual Wheelchair Users With Spinal Cord Injury: A High-Dose Shoulder Program With Telerehabilitation. *Arch Phys Med Rehabil.* 2014 Jun 2. pii: S0003-9993(14)00391-8.
- Van Wyk L, Jull G, Vicenzino B, Greaves M, O'Leary S. A comparison of craniocervical and cervicothoracic muscle strength in healthy individuals. *J Appl Biomech.* 2010 Nov;26(4):400-6.
- Vasavada AN, Li S, Delp SL. Three-dimensional isometric strength of neck muscles in humans. *Spine.* 2001 Sep 1;26(17):1904-9.
- Vasavada AN, Peterson BW, Delp SL. Three-dimensional spatial tuning of neck muscle activation in humans. *Exp Brain Res.* 2002 Dec;147(4):437-48. Epub 2002 Oct 18.
- Vermeulen H, Rozing P, Obermann W, et al. Comparison of High-Grad and Low-Grade Mobilization Techniques in the Management of Adhesive Capsulitis of the Shoulder: Randomized Controlled Trial. *Phys Ther.* 2006; 86:355-368.
- Vernon HT, Aker P, Aramenko M, et al. Evaluation of neck muscle strength with a modified sphygmomanometer dynamometer: reliability and validity. *J Manipulative Physiol Ther.* 1992 Jul-Aug;15(6):343–349.
- Vicenzino B, Branjerdporn M, Teys P, Jordan K. Initial changes in posterior talar glide and dorsiflexion of the ankle after mobilization with movement in individuals with recurrent ankle sprain. *J Orthop Sports Phys Ther.* 2006 Jul;36(7):464-71.
- Vicenzino B, Smith D, Cleland J, Bisset L. Development of a clinical prediction rule to identify initial responders to mobilisation with movement and exercise for lateral epicondylalgia. *Man Ther.* 2009 Oct;14(5):550-4.
- Vina J, Sanchis-Gomar F, Martinez-Bello V, Gomez-Cabrera M. Exercise acts as a drug: the pharmacological benefits of exercise. *British Journal of Pharmacology.* 2012;167(1):1-12.
- Vincent K, Maigne JY, Fischhoff C, Lanlo O, Dagenais S. Systematic review of manual therapies for nonspecific neck pain. *Joint Bone Spine.* 2013 Oct;80(5):508-15.
- Vleeming A, Schuenke MD, Masi AT, Carreiro JE, Danneels L, Willard FH. The sacroiliac joint: an overview of its anatomy, function and potential clinical implications. *Journal of Anatomy.* 2012;221(6):537-567.
- Voight ML, Hardin JA, Blackburn TA, Tippett S, Canner GC. The effects of muscle fatigue on and the relationship of arm dominance to shoulder proprioception. *J Orthop Sports Phys Ther.* 1996; 23(3): 348-352.
- Wainner RS, Flynn TW, Whitman JM. *Spinal and Extremity Manipulation: The Basic Skill Set for Physical Therapists.* San Antonio, TX: Manipulations, Inc; 2001.
- Wainner RS, Fritz JM, Irrgang JJ, et al. Reliability and diagnostic accuracy of the clinical examination and patient self-report measures for cervical radiculopathy. *Spine.* 2003;28:52-62.
- Wainner RS, Whitman JM, J. Cleland JA, Flynn TW. Regional Interdependence: A Musculoskeletal Examination Model Whose Time Has Come. *J Orthop Sports Phys Ther.* 2007;37(11):658-660.
- Walker MJ, Boyles RE, Young BA, et al. The effectiveness of manual physical therapy and exercise for mechanical neck pain: a randomized clinical trial. *Spine.* 2008 Oct 15;33(22):2371-8.
- Wallmann HW, Christensen SD, Perry C, Hoover DL. The acute effects of various types of stretching static, dynamic, ballistic, and no stretch of the iliopsoas on 40-yard sprint times in recreational runners. *International Journal of Sports Physical Therapy.* 2012;7(5):540-547.
- Walsler RF, Meserve BB, Boucher TR. The Effectiveness of Thoracic Spine Manipulation for the Management of Musculoskeletal Conditions: A Systematic Review and Meta-Analysis of Randomized Clinical Trials. *J Man Manip Ther.* 2009;17(4):237-46.

- Walts CT, Hanson ED, Delmonico MJ, Yao L, Min QJ, Wang MQ, Hurley BF. Do Sex or Race Differences Influence Strength Training Effects on Muscle or Fat? *Med Sci Sports Exerc.* 2008; 40(4): 669–676.
- Wang CH, McClure P, Pratt NE, Nobilini R.: Stretching and strengthening exercises: their effect on three-dimensional scapular kinematics. *Arch Phys Med Rehabil.* 1999 Aug;80(8):923-9.
- Watkins MA, Riddle DL, Lamb RL, Personius WJ. Reliability of goniometric measurements and visual estimates of knee range of motion obtained in a clinical setting. *Phys Ther.* 1991 Feb;71(2):90-6; discussion 96-7.
- Wegner S, Jull G, O'Leary S, Johnston V: The effect of a scapular postural correction strategy on trapezius activity in patients with neck pain. *Man Ther* 2010, 15(6):562–566.
- Weir JP, Beck TW, Cramer JT, Housh TJ. Is fatigue all in your head? A critical review of the central governor model. *Br J Sports Med.* 2006 Jul;40(7):573-86; discussion 586.
- Wen DY, Schultz BJ, Schaal B, Graham ST, Kim BS. Eccentric strengthening for chronic lateral epicondylitis: a prospective randomized study. *Sports Health.* 2011 Nov;3(6):500-3.
- Wikholm JB, Bohannon RW. Hand-held Dynamometer Measurements: Tester Strength Makes a Difference. *J Orthop Sports Phys Ther.* 1991;13(4):191-8.
- Wilk K. We Can Do Better. *J Orthop Sports Phys Ther* 2014;44(9):634-635.
- Willardson JM. A brief review: factors affecting the length of the rest interval between resistance exercise sets. *J Strength Cond Res.* 2006 Nov;20(4):978-84.
- Willcox EL, Burden AM. The influence of varying hip angle and pelvis position on muscle recruitment patterns of the hip abductor muscles during the clam exercise. *J Orthop Sports Phys Ther.* 2013 May;43(5):325-31.
- Williams JG, Laudner KG, McLoda T. THE ACUTE EFFECTS OF TWO PASSIVE STRETCH MANEUVERS ON PECTORALIS MINOR LENGTH AND SCAPULAR KINEMATICS AMONG COLLEGIATE SWIMMERS. *International Journal of Sports Physical Therapy.* 2013;8(1):25-33.
- Williams JG, Laudner KG, McLoda T. The acute effects of two passive stretch maneuvers on pectoralis minor length and scapular kinematics among collegiate swimmers. *Int J Sports Phys Ther.* 2013 Feb;8(1):25-33.
- Williams LR, Daniell-Smith JH, Gunson LK. Specificity of training for motor skill under physical fatigue. *Med Sci Sports.* 1976 Fall;8(3):162-7.
- Williams, John G et al. Comparison of Visual Estimation and Goniometry in Determination of a Shoulder Joint Angle. *Physiotherapy.* 1990;76(10),655-657.
- Willy RW, Davis IS. The effect of a hip-strengthening program on mechanics during running and during a single-leg squat. *J Orthop Sports Phys Ther.* 2011 Sep;41(9):625-32. doi: 10.2519/jospt.2011.3470. Epub 2011 Jul 12.
- Wolfe BL, LeMura LM, Cole PJ. Quantitative analysis of single- vs. multiple-set programs in resistance training. *J Strength Cond Res.* 2004 Feb;18(1):35-47.
- Woo S-D, Kim T-H. The effects of lumbar stabilization exercise with thoracic extension exercise on lumbosacral alignment and the low back pain disability index in patients with chronic low back pain. *Journal of Physical Therapy Science.* 2016;28(2):680-684.
- Woollard JD, Gil AB, Sparto P, Kwok CK, Piva SR, Farrokhi S, Powers CM, Fitzgerald GK. Change in knee cartilage volume in individuals completing a therapeutic exercise program for knee osteoarthritis. *J Orthop Sports Phys Ther.* 2011 Oct;41(10):708-722.
- Wormgoor ME, Indahl A, van Tulder MW, Kemper HC. Functioning description according to the icf model in chronic back pain: disablement appears even more complex with decreasing symptom-specificity. *J Rehabil Med.* 2006 Mar;38(2):93-9.
- Wren TAL, Mueske NM, Brophy CH, et al. Hop Distance Symmetry Does Not Indicate Normal Landing Biomechanics in Adolescent Athletes With Recent Anterior Cruciate Ligament Reconstruction. *J Orthop Sports Phys Ther.* 2018 Aug;48(8):622-629.
- Wüst RCI, Degens H. Factors contributing to muscle wasting and dysfunction in COPD patients. *Int J Chron Obstruct Pulmon Dis.* 2007 September; 2(3): 289–300.
- Yamamoto I, Panjabi MM, Oxland TR, Crisco JJ. The role of the iliolumbar ligament in the lumbosacral junction. *Spine (Phila Pa 1976).* 1990 Nov;15(11):1138-41.
- Ylinen J, Ruuska J. Clinical use of neck isometric strength measurement in rehabilitation. *Arch Phys Med Rehabil.* 1994 Apr;75(4):465-9.
- Ylinen J. Physical exercises and functional rehabilitation for the management of chronic neck pain. *Eura Medicophys.* 2007 Mar;43(1):119-32.
- Yoon TS, Park DS, Kang SW, Chun S, Shin JS. Isometric and Isokinetic Torque Curves at the Knee. *Yonsei Medical Journal.* 1991; 32(1):33-43.
- Yoshizawa M1, Shimizu-Okuyama S, Kagaya A. Transient increase in femoral arterial blood flow to the contralateral non-exercising limb during one-legged exercise. *Eur J Appl Physiol.* 2008 Jul;103(5):509-14. doi: 10.1007/s00421-008-0740-8. Epub 2008 Apr 19.
- Young BA, Walker MJ, Strunce JB, Boyles RE, Whitman JM, Childs JD. Responsiveness of the Neck Disability Index in patients with mechanical neck disorders. *Spine J.* 2009 Oct;9(10):802-8.

Youssef EF, Shanb AS. Mobilization versus massage therapy in the treatment of cervicogenic headache: a clinical study. *J Back Musculoskeletal Rehabil.* 2013;26(1):17-24. doi: 10.3233/BMR-2012-0344.

Yu J, Park D, Lee G. Effect of eccentric strengthening on pain, muscle strength, endurance, and functional fitness factors in male patients with achilles tendinopathy. *Am J Phys Med Rehabil.* 2013 Jan;92(1):68-76.

Zemke B, Batty R, Sorenson A, Ullom G. The lasting neurological effects of resistance training: Comparing strength gains in previously trained and non-previously trained college-aged males. *Journal of Undergraduate Kinesiology Research.* 2007;3(1):79-85.

Zeni J, Abujaber S, Pozzi F, Rasis L. Strength and pain are related to different measures of functional ability in patients with end-stage hip osteoarthritis. *Arthritis care & research.* 2014;66(10):1506-1512.

Zhou S. Chronic neural adaptations to unilateral exercise: mechanisms of cross education. *Exerc Sport Sci Rev* 2000;28:177-184.

Zito G, Jull G, Story I. Clinical tests of musculoskeletal dysfunction in the diagnosis of cervicogenic headache. *Man Ther.* 2006 May;11(2):118-29.