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Education

Postdoctoral Research (2015). University of Nebraska-Lincoln, Lincoln, NE
Ph.D. Biokinesiology (2014). University of Southern California, Los Angeles, CA.
M.S. Physical Therapy (2009). Federal University of Sao Carlos, Sao Carlos, Brazil.
B.S. Physical Therapy (2007). University of Mogi das Cruzes, Mogi das Cruzes, Brazil.
B.S. Kinesiology (2001). Christian Heritage College, San Diego, CA.

SELECTED ARTICLES AND BOOK CHAPTERS

Cesar GM, Buster TW, Burnfield JM. Cardiorespiratory fitness, balance, and walking improvements in an adolescent with cerebral palsy (GMFCS II) and autism after motor-assisted elliptical training. *European Journal of Physiotherapy*. Accepted for publication.

Burnfield JM, Cesar GM, Buster TW, Irons SL, Pfeifer CM (2018). Walking and fitness improvements in child with diplegic cerebral palsy following motor-assisted elliptical intervention. *Pediatric Physical Therapy*, 30(4):E1-E7. DOI: 10.1097/PEP.0000000000000541.

Burnfield JM, Buster TW, Pfeifer CM, Irons SL, Cesar GM, Nelson CA (2018). Adapted motor-assisted elliptical for rehabilitation of children with physical disabilities. *ASME Journal of Medical Devices*, published online ahead of print, September 26, 2018. DOI: 10.1115/1.4041588.

Pfeifer CM, Rowan D, Buster TW, Cesar GM, Irons SL, Burnfield JM (2018). Design and validation of a heart rate and speed monitoring device with Intelligently Controlled Assistive Rehabilitation Elliptical. *ASME Journal of Medical Devices*, published online ahead of print, August 29, 2018. DOI: 10.1115/1.4041337.

Burnfield JM, Pfeifer CM, Kwapiszeski S, Irons SL, Buster TW, Cesar GM (2018). Impact of ICARE training speed and motor assistance on cardiovascular response. *Cardiopulmonary Physical Therapy Journal*, published online ahead of print, September 10, 2018. DOI: 10.1097/CPT.0000000000000098.

Berg-Poppe P, Cesar GM, Tao H, Johnson C, Landry J (2018). Concurrent validity between a portable force plate and an instrumented walkway when measuring limits of stability. *International Journal of Therapy and Rehabilitation*, 25(6):272-278. DOI: <https://doi.org/10.12968/ijtr.2018.25.6.272>.

Cesar GM, Lewthwaite R, Sigward S (2018). Effects of practice on the control of whole-body momentum in active children and adults. *Journal of Motor Learning and Development*, 6(1):185-196. DOI: <https://doi.org/10.1123/jmld.2017-0008>

Cesar GM, Buster TW, Burnfield JM (2017). Should gait outcomes be the primary focus in pediatric gait rehabilitation? *Journal of Novel Physiotherapies*, 7(3):1000342.

Burnfield JM, Cesar G, Buster TW, Irons SL, Nelson CA (2017). Kinematic and muscle demand similarities between motor-assisted elliptical training and walking: Implications for pediatric gait rehabilitation. *Gait and Posture*, 51:194-200. DOI: 10.1016/j.gaitpost.2016.10.018.

Cesar GM, Pfeifer CM, Burnfield JM (2017). 3-Dimensional versus 2-dimensional comparison of knee valgus collapse during vertical jump: Clinical implications for ACL risk of injury assessment. *Journal of Sports Medicine and Therapy*, 2:32-38.

Cesar GM, Edwards H, Hasenkamp R, Burnfield JM (2017) Prediction of athletic performance of male and female athletes measured by triple hop for distance. *Trends in Sport Sciences*, 1(24): 19-25.

Cesar GM, Tomasevicz C, Burnfield JM (2016). Frontal plane comparison between drop jump and vertical jump: Implications for the assessment of ACL risk of injury. *Sports Biomechanics*, 15(4):440-449. DOI: 10.1080/14763141.2016.1174286.

Cesar GM, Sigward S (2016). Dynamic stability during running gait termination: Predictors for successful control of forward momentum in children and adults. *Human Movement Science*, 48:37-43. DOI: 10.1016/j.humov.2016.03.014.

Vieira LHP, Barbieri RA, Milioni F, Moura FA, Andrade VL, Papoti M, Cesar GM, Santiago PRP (2016). Preliminary results on organization on the court, physical and technical performance of Brazilian professional futsal players: Comparison between friendly pre-season and official match. *Motriz*, 22(2):79-91. DOI: 10.1590/S1980-6574201600020011.

Lawrence EL, Cesar GM, Bromfield M, Peterson R, Valero-Cuevas F, Sigward S (2015). Strength, multi-joint coordination, stability, and sensorimotor processing are independent contributors to overall balance ability. *BioMed Research International*, 2015:561243. DOI: 10.1155/2015/561243.

Cesar GM, Sigward S (2015). Dynamic stability during running gait termination: Differences in strategies between children and adults to control forward momentum. *Human Movement Science*, 43:138-145. DOI: 10.1016/j.humov.2015.08.005.

Sigward SM, Cesar GM, Havens KL (2014). Predictors of frontal plane knee moments during side-step cutting to 45° and 110° in men and women: Implications for ACL injury. *Clinical Journal of Sport Medicine*, 25(6):529-534. DOI: 10.1097/JSM.0000000000000155.

Cesar GM, Havens KL, Bogdanoff, SM, Powers CM, Pollard C, Sigward SM (2013). Effect of cutting angle and sex on knee valgus moment. *Journal of Orthopaedic and Sports Physical Therapy*, 43(1):A128.

Biasotto-Gonzalez DA, Sousa DFM, Herpich CM, Gloria IPS, Hage YE, Bussadori SK, Cesar GM, Gadotti IC, Gonzalez TO (2012). Assessment of occlusal contact in pre and post global posture re-education treatment: A pilot study. *Terapia Manual*, 50:528-532.

Cesar GM, Pereira VS, Santiago PR, Benze BG, da Costa PH, Amorim CF, Serrão FV (2011). Variations in dynamic knee valgus and gluteus medius onset timing in non-athletic females related to hormonal changes during the menstrual cycle. *The Knee*, 18(4):224-230. DOI: 10.1016/j.knee.2010.05.004.

Biasotto-Gonzalez DA, Hage YE, Gomes CAF, Amaral AP, Cesar GM, Bussadori SK, Gonzalez TO (2011). Follow-up treatment in mandible fractures: A case report. *Terapia Manual*, 9:284-285.

Mochida LY, Cesar GM (2010). Anatomical demands of aquatic activities, Chapter 2. Lobo da Costa PH (Ed). *Swimming and aquatic activities: A guide to teachers*. Manole, São Paulo, SP. (In Portuguese).

Mochida LY, Cesar GM, Santiago PRP, Lobo da Costa PH (2009). Dynamometric study of elderly gait during obstacle negotiation. *Brazilian Journal of Physical Education and Sport*, 23(1):15-23. (In Portuguese).

Cesar GM, Pereira VS, Serrão FV (2008). Influence of sex hormones on ACL laxity and injury: Literature review. *Physical Therapy in Movement*, 21(3):93-100. (In Portuguese).

Cesar GM, Tosato JP, Biasotto-Gonzalez DA (2006). Correlation between occlusion and cervical posture in patients with bruxism. *Compendium of Continuing Education in Dentistry*, 27(8):463-467. PMID: 16955718.

Cesar GM, Tosato JP, Gonzalez TO, Biasotto-Gonzalez DA (2006). Cervical posture and occlusal classes in bruxists and TMD asymptomatic individuals. *Revista de Odontologia da Universidade Cidade de São Paulo*, 18(2):155-160. (In Portuguese).

Cesar GM, Pinheiro HFS, Rodrigues KL, Tosato JP, Biasotto-Gonzalez DA (2006). Relationship between sleeping postures and temporomandibular dysfunction. *Revista Brasileira de Odontologia*, 63(1-2):110-112. (In Portuguese).

Cesar GM, Biasotto-Gonzalez DA, Gonzalez TO (2006). Cross-sectional study of the quality of life and functional capacity of young basketball athletes. *Revista Treinamento Desportivo*, 7(1):58-61. (In Portuguese).

Cesar GM, Tosato JP (2006). Effect of articular mobilization in patients with mandibular range of motion limitation. *Revista Terapia Manual*, 3(14):558-561. (In Portuguese).

Cesar GM, Tosato JP, Biasotto-Gonzalez DA, Gonzalez TO, Caria PHF (2006). Descriptive analysis of temporomandibular dysfunction symptoms. *Revista Brasileira de Odontologia*, 63(3-4):167-170. (In Portuguese).

Tosato JP, Cesar GM, Biasotto-Gonzalez DA (2005). Relationship between vertebral pain and pain in the temporomandibular joint. *Revista Terapia Manual*, 3(12):450-452. (In Portuguese).

SELECTED ABSTRACTS

Pfeifer CM, Whorley BA, Buster TW, Cesar GM, Burnfield JM. Investigation of center of pressure during gait and motor-assisted elliptical training in adults. Accepted, American Congress of Rehabilitation Medicine 2018 Annual Conference.

Burnfield JM, Cesar GM, Buster TW, Pfeifer CM, Anglehart CM, Klem CJ, Dasgupta P, Nelson CA. Perceived value of modular self-reconfigurable robot for reaching/retrieving by individuals with SCI. Accepted, American Congress of Rehabilitation Medicine 2018 Annual Conference.

Berg-Poppe P, Tao H, Sternhagen J, Johnson C, Cesar GM. Measuring limits of stability: Evidence of concurrent and construct validity between the Protokinetics Zeno Walkway and the Bertec Force Plate. Accepted for presentation at the American Physical Therapy Association's Combined Sections Meeting, New Orleans, LA, February 24, 2018.

Cesar GM, Irons SL, Garbin A, Eckels E, Buster TW, Burnfield JM (2017). Child with traumatic brain injury improved gait abilities following intervention with pediatric motor-assisted elliptical training: A case report. *Journal of Neurologic Physical Therapy*, 41(1):84. DOI: 10.1097/NPT.0000000000000156.

Burnfield JM, Irons SL, Cesar GM, Buster TW, Khot R, Nelson CA (2016). Pedi-ICARE training improves walking and endurance of child with cerebral palsy. *Archives of Physical Medicine and Rehabilitation*, 97(12):e19-e20.

Burnfield JM, Buster TW, Irons SL, Rech N, Cesar GM, Pfeifer CM, Nelson CA (2016). Pediatric Intelligently Controlled Assistive Rehabilitation Elliptical for walking and fitness: Prototype development and biomedical analysis. To be presented at Rehabilitation Engineering Society of North America/National Coalition for Assistive and Rehab Technology (RESNA/NCART) 2016 annual convention, Arlington, VA.

Rasmussen CM, Duncan ZE, Edwards H, Burnfield JM, Cesar GM (2016). Lower extremity postural and force imbalance between healthy and injured football athletes. Proceedings for the American Society of Biomechanics Annual Conference, Raleigh, NC.

Paterson J, Cesar GM, Hasenkamp R, Burnfield JM, Julie Honiker (2016). Vestibular and balance function in former collegiate athletes. 8th annual meeting of the American Balance Society (ABS), Scottsdale, AZ.

Edwards H, VanLent A, Rasmussen CM, Burnfield JM, Cesar GM (2016). Triple hop for distance as a measure of athletic performance. 63rd Annual Meeting, 7th World Congress on Exercise is Medicine of the American College of Sports Medicine. Medicine and Science in Sports and Exercise, Volume 48:5 Suppl 1. Boston, MA.

Hasenkamp RM, Cesar GM, Ransone JW (2016). Squat assessment following a postural correction intervention. 63rd Annual Meeting, 7th World Congress on Exercise is Medicine of the American College of Sports Medicine. Medicine and Science in Sports and Exercise, Volume 48:5 Suppl 1. Boston, MA.

Tottori N, Kurihara T, Otsuka M, Cesar GM, Isaka T (2015). Preferred foot strategy for sprint initiation in children. 24th Annual Meeting of the European Society of Movement Analysis in Adults and Children (ESMAC). Heidelberg, Germany.

Pfeifer CM, Burnfield JM, Twedt MH, Hawks JA, Hasenkamp RM, Cesar GM (2015). Post processing technique for approximating projectile trajectory in 3D space. Proceedings for the American Society of Biomechanics 39th Annual Conference. Columbus, OH.

Lawrence EL, Dayanidhi S, Cesar GM, Sigward SM, Valero-Cuevas FJ (2015). Outcome measures for hand and leg function naturally reveal latent domains of strength, limb coordination, and sensorimotor processing. Proceedings for the American Society of Biomechanics 39th Annual Conference. Columbus, OH.

Lawrence EL, Cesar GM, Bromfield M, Peterson R, Sigward SM, Valero-Cuevas FJ (2015). Sex differences in control strategies for both static and dynamic balance in young adults. Proceedings of the Annual Meeting of the Society for the Neural Control of Movement. Charleston, SC.

Bedo B, Domingos M, Mariano F, Andrade V, Macari R, Vieira L, Cesar GM, Santiago PRP (2014). Knee kinematic analysis during unilateral landing of basketball and volleyball athletes. XXIV Brazilian Congress on Biomedical Engineering. Uberlandia, MG, Brazil. (In Portuguese).

Cesar GM, Joutras DM, Parvez AH, Sigward SM (2014). Children and adults employ different strategies to terminate running gait. Medicine and Science in Sports and Exercise, Volume 46:5. Annual Meeting, World Congress on Exercise is Medicine of the American College of Sports Medicine. Orlando, FL.

Cesar GM, Lewthwaite R, Joutras DM, Parvez AH, Gow I, Sigward SM (2014). Child-adult differences in the control of the body forward momentum with practice. North American Society for the Psychology of Sport and Physical Activity Conference. Minneapolis, MN.

Cesar GM, Parvez AH, Sigward SM (2013). postural strategies for running gait termination: Comparison between children and adults. International Society of Biomechanics Conference. Natal, RN, Brazil.

Havens KL, Cesar GM, Sigward SM (2012). Center of mass position-velocity relationship for running termination control. Gait and Clinical Movement Analysis Society (GCMAS) Meeting. Grand Rapids, MI.

Cesar GM, Havens KL, Chang YJ, Sigward SM (2011). Effects of cut angle and online processing on cutting maneuvers. Proceedings for the American Society of Biomechanics 35th Annual Conference. Long Beach, CA.

Charalambous C, Gerger M, Cesar GM, Wade E, Winstein CJ (2011). Systematic investigation of anticipatory planning in goal-directed stepping. North American Society for the Psychology of Sport and Physical Activity Conference. Burlington, VT.

Powers CM, Pollard CD, Lee SP, Cesar GM, Sigward SM (2010). The influences of sex and maturation on knee valgus moments during cutting: Implications for ACL injury. Proceedings for the American Society of Biomechanics 34th Annual Conference. Providence, RI.

Cunha S, Santiago PRP, Cesar GM (2008). Knee Joint movement during a sports-related task described by the quaternions method. 13th Annual Congress of the European College of Sports Science. Estoril, Portugal.

Biasotto-Gonzalez DA, Oliveira CS, Gonzalez TO, Cesar GM, Bussadori SK, Berzin F (2008). Comparative electromyography analysis in TMD patients before and after physiotherapeutic treatment. 17th Annual Meeting of the European Society of Movement Analysis in Adults and Children (ESMAC). Antalya, Turkey. Gait & Posture, 28(2):S95-S96.

Pereira VS, Serrão FV, Cesar GM, Lobo da Costa PH, Santiago PRP (2008). Influence of hormonal variation during the menstrual cycle on knee kinematics during landing from a jump. XVI Scientific Initiation Congress, Federal University of São Carlos. Sao Carlos, Brazil. (In Portuguese).

Avila MA, Cesar GM, Serrão FV, Salvini TF (2007). Influence of core training in the neuromuscular response after ACL reconstruction: Case report. XVII Brazilian Physical Therapy Congress. Sao Paulo, Brazil. (In Portuguese).

Cesar GM, Biasotto-Gonzalez DA, Gonzalez TO (2007). Tibial rotation on the VMO myoelectric activity during open kinetic chain knee extension. Brazilian Biomechanics Congress. Sao Pedro, Brazil. (In Portuguese).

Cesar GM, Biasotto-Gonzalez DA, Buriti MA, Gonzalez TO (2006). Cross-section study of the prevalence of pain and temporomandibular discomfort and the quality of life of an elderly population. VI National Scientific Initiation Congress. Sao Paulo, Brazil. (In Portuguese).

Cesar GM, Gonzalez TO, Biasotto-Gonzalez DA (2005). Pain and injury prevalence in young basketball athletes and quality of life assessment. XVI Brazilian Physical Therapy Congress. Sao Paulo, Brazil. (In Portuguese).

Tosato JP, Cesar GM, Gonzalez TO, Correa JCF, Biasotto-Gonzalez DA (2005). Assessment of the masticatory muscles in individuals with tension-type headache: An electromyographic study. XI Brazilian Biomechanics Congress. Joao Pessoa, Brazil. (In Portuguese).

Cesar GM, Tosato JP, Biasotto-Gonzalez DA (2005). Relation between vertebral pain and pain in temporomandibular joint. III International Dental Congress, State University of Campinas. Brazilian Journal of Oral Sciences, 4(14). (In Portuguese).

SELECTED WORKSHOPS AND INVITED PROFESSIONAL PRESENTATIONS

Cesar GM. Human Gait . Department of Physical Therapy, University of South Dakota, SD. Presented April 2016; Presented March 2017 . One day course.

Cesar GM. Mechanics of the lower body during landing and cutting in sports. Department of Mechanical and Materials Engineering, University of Nebraska–Lincoln, NE. Presented November 2015.

Cesar GM. Control of body forward momentum: Application to physical activity and sports participation in children and adults. Department of Physical Therapy, University of Nevada, Las Vegas, NV. Presented August 2014.

Kulig K, Cesar GM. Update on lumbar spine. Division of Biokinesiology and Physical Therapy, University of Southern California, Los Angeles, CA. Presented January 2012.

Cesar GM. Temporomandibular joint rehabilitation, Department of Physical Therapy, University Center Sant'Anna. Sao Paulo, Brazil. Presented October 2008.

Cesar GM, Mochida LY. Massage therapy. Department of Physical Education, Universidade Estadual Paulista Júlio de Mesquita Filho UNESP, Rio Claro, Brazil. Presented September 2008.

Cesar GM. Athletic and functional taping. Department of Physical Therapy, University of Mogi das Cruzes, Mogi das Cruzes, Brazil. Presented September 2007.

Cesar GM. Scientific research designs. Human Movement Biomechanics Graduate Group, Federal University of São Carlos. São Carlos, Brazil. Presented September 2007.

Cesar GM, Mochida LY. Anatomical demands of aquatic activities. Physical Education, Federal University of São Carlos. São Carlos, Brazil. Presented September 2007.

Biasotto-Gonzalez DA, Cesar GM. Physical therapy approach to temporomandibular disorders: From diagnosis to treatment. Brazil. Presented January 2004 – December 2009.