



**MADONNA
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EDUCATION

Postdoctoral Research (2015). University of Nebraska-Lincoln, Lincoln, NE

PhD Biokinesiology (2014). University of Southern California, Los Angeles, CA.

MS Physical Therapy (2009). Federal University of Sao Carlos, Sao Carlos, Brazil.

BS Physical Therapy (2007). University of Mogi das Cruzes, Mogi das Cruzes, Brazil.

BS Kinesiology (2001). Christian Heritage College, San Diego, CA.

SELECTED ARTICLES AND BOOK CHAPTERS

Bedo BLS, Cesar GM, Andrade VL, Moura FA, Vieira LHP, Aquino R, Domingos MB, Santiago PRP (2022). Landing mechanics of basketball and volleyball athletes: A kinematic approach. *Human Movement*, 23(1):80-88. DOI: 10.5114/hm.2021.104189.

Bedo BLS, Cesar GM, Vieira AM, Vieira LHP, Catelli DS, Andrade VL, Santiago PRP (2021). Knee joint kinematics during the sidestep maneuver in professional futsal athletes: Effect of sport-specific sidestep cutting. In press, *Science and Sports*.

Burnfield JM, Cesar GM, Buster TW (2021). Feasibility of motor-assisted elliptical to improve walking, fitness and balance following pediatric acquired brain injury: A case series. In press, *Journal of Pediatric Rehabilitation Medicine*.

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Pfeifer CM, Rowen D, Buster TW, Cesar GM, Irons SI, Burnfield JM (2018). Design and validation of a heart rate and speed monitoring device with the ICARE. *ASME Journal of Medical Devices*, 13(1):015002. DOI: 10.1115/1.4041337.

Burnfield JM, Pfeifer CM, Kwapiszeski S, Irons SI, Buster TW, Cesar GM (2018). Impact of ICARE training speed and motor-assistance on cardiovascular response. *Cardiopulmonary Physical Therapy Journal*, 30(3):115-122. 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: 10.12968/ijtr.2018.25.6.272.

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Vieira LH, Doğramaci SN, Barbieri RA, Milioni F, Moura FA, Andrade VL, 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.

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Mochida LY, Cesar GM (2010). Chapter 2: Anatomical Demands of Aquatic Activities. Paula H. Lobo da Costa (Ed). *Swimming and Aquatic Activities: A guide to Teachers*. Manole. pp 14-33 (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).

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SELECTED ABSTRACTS

Shah S, Buster TW, Mohammadzadeh Gonabadi A, Cesar GM, Burnfield JM (2021). Comparison of lower extremity joint movement variability during motor-assisted elliptical exercise and treadmill walking. Accepted, *American Academy of Physical Medicine and Rehabilitation 2021 Annual Assembly*. Nashville, TN. November 11-14, 2021.

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Nimmo SM, Catcher BJ, White HJ, Buster TW, Cesar GM, Burnfield JM (2021). Impact of backward motor-assisted elliptical training on upper extremity muscle activation patterns when using reciprocally moving handles. *Archives of Physical Medicine and Rehabilitation*, 102(4):e11-12. DOI: 10.1016/j.apmr.2021.01.037.

Cesar GM, Irons SL, Habron-Wach MG, Buster TW, Burnfield JM (2021). Child with stroke improved walking, balance, and fitness following pediatric motor-assisted elliptical training intervention. Nebraska Healthy Kids Summit 2021. Virtually presented on March 3rd, 2021.

Jacobsen A, Buster TB, Cesar GM, Burnfield JM (2020). Comparison of electromyographic demands on trunk musculature during forward and reverse motor-assisted elliptical training. *Archives of Physical Medicine and Rehabilitation*, 101(12):e134. DOI: 10.1016/j.apmr.2020.10.026.

Baker BC, Burnfield JM, Buster TW, Cesar GM, Mestelle Z, Olbrantz CR (2020). Comparison of lower extremity joint kinematics and electromyographic demands during backward walking and reverse motor-assisted elliptical training. *Physical Medicine and Rehabilitation*, 2020; 12(S1)(suppl 1).

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Nelson CA, Bruckner MA, Chae JS, Burnfield JM, Buster TW, Cesar GM, Pfeifer CM, Dasgupta P (2019). Design and kinematics of a modular robot for assistive tasks for the disabled. *Proceedings of the ASME 2019 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference*. Anaheim, CA, August 18-21, 2019.

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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. Scottsdale, AZ, March 1-2, 2016.

Edwards H, VanLent A, Rasmussen CM, Burnfield JM, Cesar GM (2016). Triple hop for distance as a measure of athletic performance. *Medicine and Science in Sports and Exercise*, 48(5 Suppl 1):1043. DOI: 10.1249/01.mss.0000488140.36006.c7.

Hasenkamp RM, Cesar GM, Ransone JW (2016). Squat Assessment following a Postural Correction Intervention. *Medicine and Science in Sports and Exercise*, 48(5 Suppl 1):112. DOI: 10.1249/01.mss.0000485336.45640.ac.

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. Heidelberg, Germany, September 10-12, 2015.

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 Annual Conference. Columbus, OH, August 5-8, 2015.

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 Annual Conference. Columbus, OH, August 5-8, 2015.

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, April 19-20, 2015.

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, October 13-17, 2014 (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*, 46(5 Suppl 1):810-811. DOI: 10.1249/01.mss.0000495930.06921.1c.

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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, August 4-9, 2013.

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, May 9-12, 2012.

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 Annual Conference. Long Beach, CA, August 10-13, 2011.

Charalambous C, Gerger M, Cesar GM, Wade E, Winstein CJ (2011). Systematic investigation of anticipatory planning in goal-directed stepping. *Journal of Sport & Exercise Psychology*, 33:S61. PMID: 21877337.

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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, July 9-12, 2008.

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. *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, 2008 (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, 2007 (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, 2007 (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, 2006 (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, 2005 (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, 2005 (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, 2005;4(14) (In Portuguese).

SELECTED WORKSHOPS AND INVITED PROFESSIONAL PRESENTATIONS

Cesar GM. Human Gait. *Clinical Doctorate in Physical Therapy Program, Department of Physical Therapy, University of South Dakota*. Vermillion, SD. Presented April 2016; Presented March 2017; Presented April 2018; Presented March 2019; Presented March 2021 (one day course).

Cesar GM, Buster TW, Kelly S. Exercise science principles informing cardiorespiratory training. *2019 Madonna Locomotor Training Conference: Integrating Scientific Principles with Clinical Practice to Improve Function, Fitness, Health and Wellbeing for Individuals with Mobility Impairments*. Madonna Rehabilitation Hospitals. Lincoln, NE. Presented March 2019.

Cesar GM. Mechanics of the lower body during landing and cutting in sports. *Pierson Graduate Seminars, Department of Mechanical and Materials Engineering, University of Nebraska–Lincoln*. 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*. 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, SP, 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. *Department of 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.