

Dr. Walter Herzog - Journal Articles

In Preparation

1. Lee HD, Kawakami Y, Herzog W. Stretch-induced force enhancement of human tibialis anterior muscle during voluntary contractions. Journal of Applied Physiology.
2. Vaz MA, Longino D, Frank CB, Leonard TR, Herzog W. Quadriceps muscle inhibition does not change the mechanical properties of the rabbit MCL..
3. Vaz MA, Longino D, Leonard TR, Frank CB, Herzog W. Six months botulinum toxin-induced quadriceps muscle weakness in the rabbit..

Submitted

1. Austin N, DiFrancesco L, Herzog W. Micro-structural damage in arterial tissue exposed to repeated tensile strains. Journal of Manipulative and Physiological Therapeutics.
Submitted: 07-Apr-2009
2. Bullimore SR, Park J-S, Leonard TR, Herzog W. Residual force enhancement and depression influence the force-velocity relationship of skeletal muscle. Journal of Biomechanics.
Submitted: 08-Dec-2004
3. Bullimore SR, Saunders T.J., Herzog W, MacIntosh BR. Calculation of muscle maximal shortening velocity by extrapolation of the force-velocity relationship: afterloaded versus isotonic release contractions. Journal of Applied Physiology.
Submitted: 08-Apr-2009
4. Han S-K, Federico S, Herzog W. A depth-dependent model of the pericellular microenvironment of chondrocytes in articular cartilage. Biomechanics and Modeling in Mechanobiology.
Submitted: 03-Nov-2008
5. Herzog W. The biomechanics of muscle contraction: optimizing sport performance. Sportorthopädie Sporttraumatologie.
Submitted: 09-Sep-2009
6. Herzog W, Epstein M, Ait-Haddou R. Skeletal muscle mechanics, models, and control. Applied Mechanics Reviews.
Submitted: 15-Jun-2003
7. Hisey B, Herzog W. Residual force enhancement is caused by an increase in the proportion of attached cross-bridges in cat soleus. Journal of Biomechanics.
Submitted: 28-Apr-2009
8. Korhonen R, Han S-K, Herzog W. Osmotic loading of in situ chondrocytes in their native environment. Journal of Biomechanics.
Submitted: 28-Oct-2008
9. Leonard TR, Herzog W. Regulation of muscle force in the absence of actin-myosin based cross-bridge interaction. Science/AAAS.
Submitted: 08-Jun-2009
10. Leonard TR, Herzog W. Regulation of muscle force in the absence of actin-myosin based cross-bridge interactions. Proceedings of the Royal Society London B, Biology Letters.
Submitted: 20-Jul-2009
11. Neptune RR, Herzog W. A phenomenological model and validation of shortening force depression during muscle contractions. Journal of Biomechanics.
Submitted: 11-Jun-2009
12. Peterson D, Kaya M, Herzog W. Force and power output in frog plantaris longus in near maximal jumps. Journal of Biomechanics.
Submitted: 20-Feb-2006

13. Schappacher-Tilp G, Jinha A, Herzog W. Mapping the classical cross-bridge theory and backward steps in a three bead laser trap setup. *Journal of Biomechanics*.
Submitted: 16-Jul-2009

Accepted

1. Adeeb S, Herzog W. Simulation of Biological Growth. *Computer Methods in Biomechanics and Biomedical Engineering*.
Accepted: 16-Feb-2009
2. Han S-K, Colarusso P, Herzog W. Confocal microscopy indentation system for studying in situ chondrocyte mechanics. *Medical Engineering and Physics*.
Accepted: 31-May-2009
3. Herzog W. Twitch interpolation represents muscle activation in a qualitative manner only (commentary). *Journal of Applied Physiology*.
4. Li LP, Cheung JTM, Herzog W. Three dimensional anisotropic collagen fibril-reinforcement in articular cartilage. *Medical Engineering and Physics*.
Accepted: 16-Feb-2009
5. Tilp M, Steib S, Schappacher-Tilp G, Herzog W. Changes in fascicle lengths and pennation angles give no explanation for residual force enhancement or depression during voluntary contractions in human tibialis anterior. *Journal of Applied Biomechanics*.

In Press

1. Jordan M, Norris SR, Smith D, Herzog W. Acute effects of whole-body vibration on peak isometric torque, muscle twitch torque and voluntary muscle activation of the knee extensors. *Scandinavian Journal of Medicine and Science in Sports*. DOI: 10.1111/j.1600-0838.2009.00973.x.
2. Lee E-J, Herzog W. Shortening-induced force depression is primarily caused by cross-bridges in strongly bound states. *Journal of Biomechanics*. DOI: 10.1016/j.jbiomech.2009.06.026.

Published

1. Hisey B, Leonard TR, Herzog W (2009) Does residual force enhancement increase with increasing stretch magnitudes? *Journal of Biomechanics*. Elsevier 42 (10):1488-1492.
2. Jinha A, Ait-Haddou R, Kaya M, Herzog W (2009) A task-specific validation of homogeneous non-linear optimisation approaches. *Journal of Theoretical Biology*. *Journal of Theoretical Biology* 259 (4):695-700.
3. Oskouei MAE, Herzog W (2009) Activation-induced force enhancement in human adductor pollicis. *Journal of Electromyography and Kinesiology* 19:821-828.
4. Rode C, Siebert T, Herzog W, Blickhan R (2009) The effects of parallel and series elastic components on the active cat soleus force-length relationship. *Journal of Mechanics in Medicine and Biology* 9 (1):105-122.
5. Schappacher-Tilp G, Binding PA, Braverman E, Herzog W (2009) Velocity-dependent cost function for the prediction of force sharing among synergistic muscles in a one degree of freedom model. *Journal of Biomechanics* 42 (5):657-660.
6. Tilp M, Steib S, Herzog W (2009) Force-time history effects in voluntary contractions of human tibialis anterior. *European Journal of Applied Physiology* 106:159-166.
7. Youssef A, Seerattan R, Leonard TR, Herzog W (2009) Muscle weakness causes joint degeneration in rabbits. *Osteoarthritis and Cartilage* 17 (9):1228-1235.
8. Ait-Haddou R, Herzog W, Biard L (2008) Pythagorean-hodograph ovals of constant width. *Computer Aided Geometric Design* 25:258-273.
9. Bullimore SR, MacIntosh BR, Herzog W (2008) Is a parallel elastic element responsible for the enhancement of steady-state muscle force following active stretch? *Journal of Experimental Biology* 211:3001-3008.

10. [Federico S](#), [Grillo A](#), [Giaquinta G](#), [Herzog W](#) (2008) Convex fung-type potentials for biological tissues. *Meccanica* 43 (3):279-288.
11. [Federico S](#), [Grillo A](#), [Giaquinta G](#), [Herzog W](#) (2008) A semi-analytical solution for the confined compression of hydrated soft tissue. *Meccanica*.DOI: 10.1007/s11012-008-9165-z.
12. [Federico S](#), [Grillo A](#), [Imatani S](#), [Giaguinta G](#), [Herzog W](#) (2008) An energetic approach to the analysis of anisotropic hyperelastic materials. *International Journal of Engineering Science* pg(s) 164-181.DOI: 10.1016/j.ijengsci.2007.09.005.
13. [Federico S](#), [Herzog W](#) (2008) On the permeability of fibre-reinforced porous materials. *International Journal of Solids and Structures* 45:2160-2172.
14. [Federico S](#), [Herzog W](#) (2008) On the anisotropy and inhomogeneity of permeability in articular cartilage. *Biomechanics and Modeling in Mechanobiology* 7 (5):367-378.
15. [Federico S](#), [Herzog W](#) (2008) Towards an analytical model of soft biological tissues. *Journal of Biomechanics* 41:3309-3313.
16. [Grillo A](#), [Jinha A](#), [Federico S](#), [Ait-Haddou R](#), [Herzog W](#), [Giaquinta G](#) (2008) Directed transport of brownian particles in a changing temperature field. *Journal of Physics A: Mathematical and Theoretical* 41 (1):015002.
17. [Herzog W](#), [Joumaa V](#), [Leonard TR](#) (2008) On the mechanics of single sarcomeres. *Molecular and Cellular Biomechanics* 1:375-382.
18. [Herzog W](#), [Leonard TR](#), [Joumaa V](#), [Mehta A](#) (2008) Mysteries of muscle contraction. *Journal of Applied Biomechanics* 24 (1):1-13.
19. [Herzog W](#), [Yaraskavitch M](#), [Leonard TR](#) (2008) Response to letter to the editor Re: Botox produces functional weakness in non-injected muscles adjacent to the target muscle. *Journal of Biomechanics* pg(s) 2067-2067.
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23. [Kaya M](#), [Leonard TR](#), [Herzog W](#) (2008) Premature deactivation of soleus during the propulsive phase of cat jumping. *Journal of Royal Society Interface* 5:415-426.
24. [Korhonen R](#), [Herzog W](#) (2008) Depth-dependent analysis of the role of collagen fibrils, fixed charges and fluid in the pericellular matrix of articular cartilage on chondrocyte mechanics. *Journal of Biomechanics* 41:480-485.
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28. [Lemos R](#), [Epstein M](#), [Herzog W](#) (2008) Modeling of skeletal muscle: The influence of tendon and aponeuroses compliance on the force-length relationship. *Medical and Biological Engineering Computing* 46:23-32.
29. [Li LP](#), [Korhonen R](#), [Livarinen](#), [Jurvelin JS](#), [Herzog W](#) (2008) Fluid pressure driven fibril reinforcement in creep and relaxation tests of articular cartilage. *Medical Engineering and Physics* 30:182-189.
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36. Erdemir A, McLean S., Herzog W, van den Bogert AJ (2007) Model-based estimation of muscle forces exerted during movements. *Clinical Biomechanics* 22:131-154.
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