Laboratory for Optimization and Computation in Orthopaedic Surgery

Department of Orthopaedic Surgery, University of Michigan

PEER-REVIEWED PUBLICATIONS AS OF 7/27/07

1. Hughes, R.E. and Powell, W.B. (1988) Mitigating end effects in the dynamic vehicle allocation model. *Management Science* 34(7): 859-879.
2. Thompson, D.D., Chaffin, D.B., Hughes, R.E., and Evans, O. (1992) The relationship of isometric strength to peak dynamic hand forces during submaximal weight lifting. *International Journal of Industrial Ergonomics* 9(1): 15-23.
3. Lavender, S.A., Tsuang, Y.H., Hafezi, A., Andersson, G.B.J., Chaffin, D.B., and Hughes, R.E. (1992) Coactivation of the trunk musculature during asymmetric loading of the torso. *Human Factors* 34(2): 239-247.
4. Redfern, M.S., Hughes, R.E., and Chaffin, D.B. (1993) High-pass filtering to remove electrocardiographic interference from torso EMG recordings. *Clinical Biomechanics* 8(1): 44-48.
5. Kerk, C.J., Chaffin, D.B., Page, G.B., and Hughes, R.E. (1994) A comprehensive biomechanical model using strength, stability, and COF constraints to predict hand force. *IIE Transactions* 26(3): 57-67.
6. Hughes, R.E., Chaffin, D.B., Lavender, S.A., and Andersson, G.B.J. (1994) Evaluating muscle force prediction models of the lumbar trunk using surface electromyography. *Journal of Orthopaedic Research* 12(5): 689-698.
7. Hughes, R.E. and Chaffin, D.B. (1995) The effect of strict muscle stress limits on abdominal muscle force predictions for combined torsion and extension loadings. *Journal of Biomechanics* 28(5): 527-533.
8. Hughes, R.E., Bean, J.C., and Chaffin, D.B. (1995) Evaluating the effect of co-contraction in optimization models. *Journal of Biomechanics* 28(7): 875-878.
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10. Silverstein, B.A. and Hughes, R.E. (1996) Epidemiology of upper extremity musculoskeletal disorders at a pulp and paper mill. *Applied Ergonomics* 27(3): 189-194.
11. Hughes, R.E. and An, K-N (1996) Force analysis of rotator cuff muscles. *Clinical Orthopaedics and Related Research* 330: 75-83.
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13. Hughes, R.E., Silverstein, B.A., and Evanoff, B.A. (1997) Risk factors for work-related musculoskeletal disorders in an aluminum smelter. *American Journal of Industrial Medicine* 32: 66-75.

14. Hughes, R.E. and Chaffin, D.B. (1997) Using principal components regression to stabilize EMG-muscle force parameter estimates of torso muscles. *IEEE Transactions on Biomedical Engineering* 44(7): 639-642.

15. Hughes, R.E. and An, K-N. (1997) Monte Carlo simulation of a planar shoulder model. *Medical and Biological Engineering and Computing* 35: 544-548.

16. Hughes, R.E., Schneeberger, A.G., An, K-N, Morrey, B.F., and O'Driscoll, S.W. (1997) Reduction of triceps muscle force after shortening of the distal humerus: A computational model. *Journal of Shoulder and Elbow Surgery* 6(5): 444-448.

17. Hughes, R.E., Niebur, G., Liu, J., and An, K-N (1998) Comparison of two methods for computing abduction moment arms of the rotator cuff. *Journal of Biomechanics* 31: 157-160.

18. Liu, J., Hughes, R.E., O'Driscoll, S.W., and An, K-N (1998) Biomechanical effect of medial advancement of the supraspinatus tendon. *Journal of Bone and Joint Surgery - American Volume* 80-A(6): 853-859.

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21. Nakajima, T., Liu, J., Hughes, R.E., O'Driscoll, S.W., and An, K-N (1999) Abduction moment arm of transposed subscapularis tendon. *Clinical Biomechanics* 14: 265-270.

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41. Nakajima, T., Hughes, R.E., and An, K-N (2004) Effects of glenohumeral rotations and translations on supraspinatus tendon morphology. *Clinical Biomechanics* 19: 579-585.

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48. Sommerich, C.M., and Hughes, R.E. (2006) Aetiology of work-related disorders of the rotator cuff tendons: Research and theory. *Theoretical Issues in Ergonomics Science* 7(1): 19-38.

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