Publications

A selection of recent peer reviewed publications by members of the group is given below:

2014

Ahmadzadeh SMH & Hukins DWL (2014). Feasibility of using mixtures of silicone elastomers and silicone oils to model the mechanical behaviour of biological tissues. *Journal of Engineering in Medicine* 228: 730 - 734.

Angadi DS, Shepherd DET, Vadivelu R & Barrett T (2014). Rigid intramedullary nail fixation of femoral fractures in adolescents: what evidence is available? *Journal of Orthopaedics and Traumatology*. In press.

Bahraseman HG, Hassani K, Khosravi A, Navidbakhsh M, Espino DM, Fatouraee N, Kazemi-Saleh D (2014). Combining numerical and clinical methods to assess aortic valve hemodynamics during exercise. *Perfusion* 29: 340-350.

Bahraseman HG, Hassani K, Navidbakhsh M, Espino DM, Sani ZA, Fatouraee N (2014). Effect of exercise on blood flow through the aortic valve: a combined clinical and numerical study. *Computer Methods in Biomechanics and Biomedical Engineering* 17: 1821-1834.

Espino DM, Shepherd DET & Hukins DWL (2014). Viscoelastic properties of bovine knee joint articular cartilage: dependency on thickness and loading frequency. *BMC Musculoskeletal Disorders* 15: 205.

Espino DM, Shepherd DET & Hukins DWL (2014). Evaluation of a transient, simultaneous, Arbitrary Lagrange-Euler based multi-physics method for simulating the mitral heart valve. *Computer Methods in Biomechanics and Biomedical Engineering*. 17 (4), 450-458.

Wilcox AG, Buchan KG & Espino (2014). Frequency and diameter dependent viscoelastic properties of mitral valve chordae tendineae. *Journal of the Mechanical Behavior of Biomedical Materials* 30: 186-195.

2013

Aghayan S, Shepherd DET, Davis ET (2013). A biomechanical study of the Birmingham Mid Head Resection arthroplasty: effect of stem size on femoral neck fracture. Journal of Engineering in Medicine 227: 911 - 916.

Espino DM, Shepherd DET & Hukins DWL (2013). A simple method for contact modelling in an arbitrary frame of reference within multi-physics software. Journal of Mechanics 29: N9-N14.

Espino DM, Shepherd DET & Hukins DWL (2013). Development of a transient large strain contact method for biological heart valve simulations. Computer Methods in Biomechanics and Biomedical Engineering 16: 413-424.

Ghosh S, Bowen J, Jiang K, Espino DM & Shepherd DET (2013). Investigation of techniques for the measurement of articular cartilage surface roughness. Micron 44: 179–184.

Moghadas P, Mahomed A, Hukins DWL & Shepherd DET (2013). Effect of lubricants on friction in laboratory tests of a total disc replacement device. Journal of Engineering in Medicine 227: 988-993.

Moghadas P, Mahomed A, Hukins DWL & Shepherd DET (2013). Wear in metal-on-metal total disc arthroplasty. Journal of Engineering in Medicine. 227: 356–361.

Parekh J, Shepherd DET, Hukins DWL Hingley C & Maffulli N (2013). In vitro investigation of friction at the interface between bone and a surgical instrument. Journal of Engineering in Medicine 227: 712–718.

Patel PSD, Hukins DWL, Shepherd DET (2013). The effect of “toggling” on the pullout strength of bone screws in normal and osteoporotic bone models. The Open Mechanical Engineering Journal 7: 35-39.

Xin H, Shepherd DET & Dearn KD (2013). A tribological assessment of a PEEK based self-mating total cervical disc replacement. Wear. 303: 473-479.

Xin H, Shepherd DET & Dearn KD (2013). Strength of polyether-ether-ketone: effects of sterilisation and thermal ageing. Polymer Testing 32: 1001-1005.