

Peer Reviewed Publications:

2013

1. Waller KA, Zhang LX, Elsaid KA, Aslani K, Warman ML, Fleming BC, Jay GD: The role of lubricin and boundary lubrication in the prevention of chondrocyte apoptosis. *Proceedings of the National Academy of Science*, In Press, 2013.
2. Murray MM, Fleming BC: Use of a collagen-platelet composite to stimulate healing also minimizes post-traumatic osteoarthritis after ACL surgery. *American Journal of Sports Medicine*, In Press, 2013 [NIHMS# 450783].
3. Teeple E, Jay GD, Elsaid, GD, Fleming BC: Animal models of osteoarthritis: Challenges of model selection and analysis. *Journal of the American Association of Pharmaceutical Scientists*, 2013 Jan 18 (Epub ahead of print) [PMID: 23329424].
4. Biercevicz AM, Miranda DL, Machan JT, Murray MM, Fleming BC: In situ non-invasive T2*weighted MRI derived parameters predict *ex vivo* structural properties of an ACL reconstruction or bio-enhanced primary repair in a porcine model. *American Journal of Sports Medicine* 41: 560-566, 2013 [PMID: 23348076; NIHMS# 422525].
5. Fleming BC, Fadale PD, Hulstyn MJ, Shalvoy RM, Oksendahl HL, Badger MS, Tung GA: The Effect of Initial Graft Tension after Anterior Cruciate Ligament Reconstruction: A Randomized Clinical Trial with 36 Month Follow-up. *American Journal of Sports Medicine* 41: 25-34, 2013 [PMID: 23144370; PMC3534813].
6. Vavken P, Fleming BC, Machan JT, Murray MM: Effects of suture choice on biomechanics and physeal status after bio-enhanced anterior cruciate ligament repair in skeletally immature patients: A large animal study. *Arthroscopy* 29: 122-132, 2013 [PMID: 23200845; NIHMS# 407082].
7. Miranda DL, Rainbow MJ, Crisco JJ, Fleming BC: Kinematic differences between optical motion capture and biplanar videoradiography during a jump-cut maneuver. *Journal of Biomechanics* 46: 567-573, 2013 [PMID: 23084785; PMC3551998].
8. Akelman M, Teeple E, Machan J, Crisco JJ, Jay GD, Fleming BC: Pendulum mass affects the measurement of articular friction coefficient. *Journal of Biomechanics* 46: 615-618, 2013 [PMID: 23122223; PMC3551997].

2012

1. Miranda DL, Fadale PD, Hulstyn MJ, Shalvoy RM, Machan JT, Fleming BC: Knee biomechanics during a jump-cut maneuver: Effects of gender & ACL surgery. *Medicine and Science in Sports and Exercise*, 2012 Nov 27 (Epub ahead of print) [PMID: 23190595; NIHMS# 418347].
2. Waller KA, Zhang LX, Fleming BC, Jay GD: Preventing friction induced chondrocyte apoptosis: A comparison of human synovial fluid and Hylan G-F 20. *Journal of Rheumatology* 39: 1473-1480, 2012 [PMID: 22660808].
3. Elsaid KA, Zhang L, Waller K, Toft J, Teeple E, Fleming BC, Jay GD: The impact of forced joint exercise on lubricin biosynthesis from articular cartilage following ACL transection and intra-articular lubricin's effect in exercised joints following ACL transection. *Osteoarthritis & Cartilage* 20: 940-948, 2012 [PMID: 22579916].
4. Wei F, Zhou J, Wei X, Zhang J, Fleming BC, Terek R, Pei M, Chen Q, Liu T, Wei L: Activation of Indian Hedgehog promotes chondrocyte hypertrophy and upregulation of MMP-13 in human osteoarthritic cartilage. *Osteoarthritis & Cartilage* 20: 755-763, 2012 [PMID: 22469853; PMC3374008].
5. Vavken P, Fleming BC, Mastrangelo AN, Machan JT, Murray MM: Biomechanical outcomes after bio-enhanced ACL repair and ACL reconstruction are equal in a porcine model. *Arthroscopy* 28: 672-680, 2012 [PMID: 22261137; PMC3340462].

6. Jay GD, Elsaid KA, Kelly KA, Anderson SC, Zhang L, Teeple E, Waller K, Fleming BC: Prevention of cartilage degeneration and gait asymmetry by lubricin tribosupplementation in the rat following ACL transection. *Arthritis & Rheumatism* 64: 1162-1171, 2012 [PMID: 22127873; PMC3297696].
7. Drewniak EI, Jay GD, Fleming BC, Zhang L, Warman ML, Crisco JJ: Cyclic loading increases friction and changes cartilage surface integrity in lubricin mutant mouse knees. *Arthritis & Rheumatism* 64: 465-473, 2012 [PMID: 21905020; PMC3252402].
8. Proffen BL, McElfresh M, Fleming BC, Murray MM: A comparative anatomical study of the human knee and six animal species. *The Knee* 19: 493-499, 2012 [PMID: 21852139; PMC3236814].
9. Mulcahey MK, Monchik KO, Yongpravat C, Badger GD, Fadale PD, Hulstyn MJ, Fleming BC: Effects of single-bundle and double-bundle ACL reconstruction on tibiofemoral compressive stresses and knee kinematics during simulated squatting. *The Knee* 19: 469-476, 2012 [PMID: 21696962; PMC3193548].

2011

1. Teeple E, Elsaid KA, Jay GD, Zhang L, Badger GD, Akelman M, Bliss T, Fleming BC: The effects of supplemental intra-articular lubricin and hyaluronic acid on the progression of post-traumatic arthritis in the anterior cruciate ligament deficient rat knee. *American Journal of Sports Medicine* 39: 164-172, 2011 [PMID: 20855557; PMC3010331].
2. Tompkins M, Plante M, Monchik K, Fleming BC, Fadale P: The use of a non-benzodiazapine hypnotic sleep-aid (Zolpidem) to reduce post-operative pain and fatigue in patient undergoing ACL reconstruction: A randomized controlled clinical trial. *Knee Surgery, Sports Traumatology, and Arthroscopy* 19: 787-791, 2011 [PMID: 21253706].
3. Mastrangelo AN, Vavken P, Fleming BC, Harrison SH, Murray MM: Reduced platelet concentration does not harm PRP effectiveness in a porcine in vivo model. *Journal of Orthopaedic Research* 29: 1002-1007, 2011 [PMID: 21337615; PMC3094496].
4. Vavken P, Saad FA, Fleming BC, Murray MM: VEGF receptor expression by ACL fibroblasts affects functional healing of the ACL. *Knee Surgery, Sports Traumatology, Arthroscopy* 19: 1675-1682, 2011 [PMID: 21331648; PMC3210695].
5. Tompkins M, Monchik K, Plante M, Fleming BC, Fadale PD: Contact area and pressure in suture bridge rotator cuff repair using knotless lateral anchors. *Knee Surgery, Sports Traumatology, Arthroscopy* 19: 1788-1793, 2011 [PMID: 21468618].
6. Fujiya H, Kousa P, Fleming BC, Churchill DL, Beynon BD: Effect of muscle loads and torque applied to the tibia on the strain behavior of the anterior cruciate ligament: An in vitro investigation. *Clinical Biomechanics* 26: 1005-1011, 2011 [PMID: 21816523; PMC3205257].
7. Fleming BC, Vajapeyam S, Connolly S, Magarian E, Murray MM: The use of magnetic resonance imaging to predict ACL graft structural properties. *Journal of Biomechanics* 44: 3843-2846, 2011 [PMID: 21962290; PMC3208804].
8. Mulcahey MK, Monchik KO, Yongpravat C, Badger GD, Fadale PD, Hulstyn MJ, Fleming BC: Effects of single-bundle and double-bundle ACL reconstruction on tibiofemoral compressive stresses and knee kinematics during simulated squatting. *The Knee*, Epub 2011 [PMID: 21696962; PMC3193548].
9. Beynon BD, Johnson RF, Naud S, Fleming BC, Abate JA, Brattbakk B, Nichols CE: Accelerated versus non-accelerated rehabilitation following anterior cruciate ligament reconstruction: A prospective, randomized, double-blind investigation evaluating knee joint laxity using roentgen stereophotogrammetric analysis. *American Journal of Sports Medicine* 39: 2536-2548, 2011 [PMID: 21952714].

10. Miranda DL, Schwartz JB, Loomis AC, Brainerd EL, Fleming BC, Crisco JJ: Static and dynamic error of a biplanar videoradiography system using marker-based and markerless tracking techniques. *Journal of Biomechanical Engineering* 133: 121002, 2011 [PMID: 22206419; PMC3267989].

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1. Fleming BC, Magarian E, Harrison S, Murray MM: Collagen Scaffold supplementation does not improve the functional properties of the repaired ACL. *Journal of Orthopaedic Research* 28: 703-709, 2010 [PMID: 20058276; PMC2858260].
2. Wei L, Fleming BC, Sun X, Teeple E, Wu W, Jay GD, Elsaid KA, Machan JT, Chen Q: A comparison of differential biomarkers of osteoarthritis with and without post traumatic injury in the Hartley guinea pig model. *Journal of Orthopaedic Research* 28: 900-906, 2010 [PMID: 20108346; PMC2875364].
3. Fleming BC, Oksendahl HL, Mehan WA, Portney R, Fadale PD, Hulstyn MJ, Bowers ME, Machan JT, Tung GA: Delayed gadolinium enhanced MRI of cartilage following ACL injury. *Osteoarthritis & Cartilage* 18: 662-667, 2010 [PMID: 20188685; PMC2862790].
4. Miranda DL, Rainbow MJ, Leventhal E, Crisco JJ, Fleming BC: Automatic determination of standardized anatomical coordinate systems for three-dimensional bone models of the human knee. *Journal of Biomechanics* 43: 1623-1626, 2010 [PMID: 20167324; PMC2866785].
5. Jay GD, Fey T, Watkins B, Fleming BC, Zhang L, Teeple E, Waller W, Elsaid KA: Prevention of cartilage degeneration and restoration of chondroprotection by tribosupplementation in the rat following ACL transection. *Arthritis & Rheumatism* 62: 2382-2391, 2010 [PMID: 20506144; PMC2921027].
6. Bowers ME, Tung GT, Oksendahl HL, Hulstyn MJ, Fadale PD, Machan JT, Fleming BC: Quantitative Magnetic Resonance Imaging Detects Changes in Meniscal Volume *in Vivo* After Partial Meniscectomy. *American Journal of Sports Medicine* 38: 1631-1637, 2010 [PMID: 20442327; PMC9214165].
7. Roemhildt ML, Coughlin KM, Peura GD, Badger GJ, Churchill D, Fleming BC, Beynnon BD: Effects of increased chronic loading on articular cartilage material properties in the lapine tibiofemoral joint. *Journal of Biomechanics* 43: 2301-2308, 2010 [PMID: 20506144; PMC2922428].
8. Murray MM, Magarian EM, Harrison SL, Zurakowski D, Fleming BC: The effect of skeletal maturity on functional healing of the anterior cruciate ligament. *Journal of Bone and Joint Surgery Am* 92: 2039-2049, 2010 [PMID: 20810854; PMC2924734].
9. Murray MM, Magarian E, Zurakowski D, Fleming BC: Bone-to-bone fixation enhances functional healing of the porcine anterior cruciate ligament. *Arthroscopy* 29: S49-S57, 2010 [PMID: 20810092; PMC2936961].
10. Magarian EM, Fleming BC, Harrison SL, Mastrangelo AN, Badger GD, Murray MM: Delay of 2 or 6 weeks adversely effects the functional outcome of augmented primary repair of the porcine anterior cruciate ligament. *American Journal of Sports Medicine* 38: 2528-2534, 2010 [PMID: 20855556; PMC2996471].

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1. Spindler KP, Murray MM, Carey J, Fleming BC: The use of platelets to affect functional healing of an anterior cruciate ligament (ACL) autograft in a caprine ACL reconstruction model. *Journal of Orthopaedic Research* 27:631-638, 2009 [PMID: 19009602; PMC2752673].
2. Murray MM, Palmer M, Abreu E, Spindler KP, Zurakowski D, Fleming BC: Platelet-rich plasma alone is not sufficient to enhance suture repair of the ACL in skeletally immature

- animals: An in vivo study. *Journal of Orthopaedic Research* 27: 639-645, 2009 [PMID: 18991345; PMC2824566].
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 4. Oksendahl NL, Gomez N, Thomas CS, Badger GJ, Hulstyn MJ, Fadale PD, Fleming BC: Digital radiographic assessment of tibiofemoral joint space width: a variance component analysis. *Journal of Knee Surgery* 22: 205-212, 2009 [PMID: 19634723; PMC2790164].
 5. Drewniak EI, Jay GD, Warman ML, Fleming BC, Crisco JJ: Comparison of two methods for calculating the frictional properties of articular cartilage using a simple pendulum and intact mouse knee joints. *Journal of Biomechanics* 42: 1996-1999, 2009 [PMID: 19632680; PMC2734508].
 6. Elsaid KA, Machan JT, Waller K, Fleming BC, Jay GD: The impact of anterior cruciate ligament injury on lubricin metabolism and the effect of inhibiting TNF- α on chondroprotection in an animal model. *Arthritis & Rheumatism* 60:2997-3006, 2009 [PMID: 19790069; PMC2800051].
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1. Le NA, Fleming BC: Measuring fixed charge density and mechanical properties of goat articular cartilage using indentation methods and biochemical analysis. *Journal of Biomechanics* 41: 715-720, 2008 [PMID: 17991472; PMC2288547].
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5. Tocci SL, Tashjian RZ, Leventhal E, Spenciner DB, Green A, Fleming BC: Biomechanical evaluation of single row arthroscopic rotator cuff repair (ARCR) technique. *Journal of Shoulder & Elbow Surgery* 17: 808-814, 2008 [PMID: 18595743].
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8. Fleming BC, Brady MF, Bradley MP, Banerjee R, Hulstyn MJ, Fadale PD: Tibiofemoral compression force differences using laxity- and force-based initial graft tensioning techniques in the ACL reconstructed knee. *Arthroscopy* 24: 1052-1060, 2008 [PMID: 18760214; PMC2638055].

9. Wright RW, Preston E, Fleming BC, Amendola A, Andrish JT, Bergfeld JA, Dunn WR, Kaeding C, Kuhn JE, Marx RG, McCarty EC, Spindler KP, Wolcott M, Wolf BR, Williams GN: ACL reconstruction rehabilitation: A systematic review, Part I. *Journal of Knee Surgery* 21: 217-224, 2008 [PMID: 18686484].
10. Wright RW, Preston E, Fleming BC, Amendola A, Andrish JT, Bergfeld JA, Dunn WR, Kaeding C, Kuhn JE, Marx RG, McCarty EC, Spindler KP, Wolcott M, Wolf BR, Williams GN: ACL reconstruction rehabilitation: A systematic review, Part II. *Journal of Knee Surgery* 21: 225-234, 2008 [PMID: 18686485]
11. Butler, DL, Lewis, JL, Frank, CB, Banes, AJ, Caplan AI, DeDeyne, PG, Dowling, M, Fleming BC, Glowacki, J, Guldbery, RE, Johnstone, B, Kaplan DL, Levenston, ME, Lotz, JC, Lu, EY, Lumelsky, N, Mao, JJ, Mauck, RL, McDevitt, CA, Mejia, LC, Murray, MM, Ratcliffe, A, Spindler KP, Tashman, S, Wagner, CT, Weisberg, EM, Williams, C, Zhang, R. Evaluation criteria for musculoskeletal and craniofacial tissue engineering constructs: A conference report. *Tissue Engineering Part A*, 14: 2089-2104, 2008 [PMID: 19093294; PMC2809981].

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2. Walsh EF, DaSilva M, Fleming BC, Akelman E: Thumb carpometacarpal arthroscopy: A topographic, anatomic study of the thenar portal. *Journal of Hand Surgery* 30A: 373-379, 2005 [PMID: 15781362].
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1. Beynnon BD, Fleming BC, Churchill DL, Brown DS: The effect of anterior cruciate ligament deficiency and functional bracing on translation of the tibia relative to the femur during non-weight bearing and weight bearing. *American Journal of Sports Medicine* 31: 99-105, 2003 [PMID: 12531765].
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transition from non-weight bearing to weight bearing. *Journal of Orthopaedic Research* 20: 332-337, 2002 [PMID: 11918313].

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