

Program

- 8:00 - 8:20 am Registration and Check-In
- 8:20 - 8:30 am Opening Ceremony, Welcome & Announcements
Savio L-Y. Woo, Ph.D., D.Sc. (Hon.)

Session 1: Biology and Function of Ligaments and Tendons **Session Moderators: Kai-Nan An, Ph.D. & Bruce Beynon, Ph.D.**

- 8:30 am A Mechanism for the Development of a SLAP Lesion in Throwers **p. 8**
JE Tibone, MG Grossman, MH McGarry, DJ Schneider, TQ Lee
- 8:45 am Mechanical Properties of Endobutton Constructs Used in ACL Reconstruction **p. 9**
PC Stephens, T Miwa, A Perry, D Acton, R Evans, W Bruce, WR Walsh
- 9:00 am Migration of Markers Attached to Anterior Cruciate Ligament Soft Tissue Grafts After Cyclic Loading: A Study Using Roentgen Stereophotogrammetric Analysis (RSA) **p. 10**
PJ Roos, ML Hull, SM Howell
- 9:15 am Inter-Insertion Distances Measured Over Time in Both Damaged and Intact Knee Ligaments After ACL/MCL Injury **p. 11**
JE Tapper, Y Funakoshi, M Hariu, C Sutherland, GM Thornton, JL Ronsky NG Shrive, CB Frank
- 9:30 am Impact of Suture Technique and Tendon Preparation on the Interference Fixation Strength of Quadrupled Hamstring Tendon Grafts **p. 12**
S Scheffler, ES Steenlage, DNM Caborn, A Weiler, J Hoher
- 9:45 am Evidence of Functional Graft Elongation During Running One Year After ACL Reconstruction **p. 13**
S Tashman, W Anderst, D Collon
- 10:00 - 10:25 am Break and Poster Session

Session 2: Special Symposium - Tendinopathy **Session Moderators: Lou Soslowky, Ph.D. & Ranjan Gupta, M.D.**

- 10:25 am Introduction by Moderators
- 10:30 am Tendinopathy: Biology & Etiology **p. 14**
SP Arnoczky

- 10:42 am The Molecular Biology of Tendons: Regulating Signaling and Gene Expression in with Ligands and Mechanical Load **p. 15**
AJ Banes, M Tsuzaki, M Wall, J Qi
- 10:54 am A Mechanobiological Approach to Study Cellular and Molecular Mechanisms for the Development of Tendinopathy **p. 16**
JH-C Wang, ZZ Li, G Yang, D Stone, SL-Y Woo
- 11:06 am Aspects of Functional Tissue Engineering in Tendinopathies **p. 17**
DL Butler, H Awad, MT Harris, MR Dressler, N Juncosa, J West, GP Boivin, R Young, M Galloway
- 11:18 am Clinical Management of Tendinopathy **p. 18**
PA Renström
- 11:30 am The Scientific Basis for Progressive Rehabilitation of Rotator Cuff Tendinopathy **p. 19**
WB Kibler, B Wise, TL Uhl
- 11:42 am Discussion
- 12:00 - 1:00 pm Lunch

Session 3: Biomechanics of the Upper & Lower Extremities
Session Moderators: Jennifer Wayne, Ph.D. & Anastasios Georgoulis, M.D.

- 1:00 pm Pilot Study of the In Vivo Kinematic Analysis of the Pivot Shift Phenomenon Using Electromagnetic Device **p. 20**
S Kubo, S Yoshiya, H Muratsu, M Yagi, K Mizuno, M Kurosaka
- 1:15 pm Determination of Optimal Graft Lengths in Cruciate Ligament Reconstruction **p. 21**
G Li, LE DeFrate
- 1:30 pm The Mechanical Consequences of Gender Differences in Single Limb Alignment During Landing **p. 22**
AM Chaudhari, BK Hearn, LA Leveille, TP Andriacchi
- 1:45 pm Knee Internal-External Rotation After ACL Reconstruction **p. 23**
C Papageorgiou, S Ristanis, G Giakas, N Stergiou, A Georgoulis
- 2:00 pm Knee Mechanics of Posterior Cruciate Ligament Deficient Patients During Stair Descending **p. 24**
S Iwata, T Nagura, Y Suda, H Matsumoto, Y Toyama, TP Andriacchi

2:15 pm Ligamentous Restraint to Anterior Translation and External Rotation in the Apprehension Position: Biomechanical Assessment of Simulated Anterior Shoulder Instability **p. 25**
T Mihata, YS Lee, MH McGarry, M Abe, TQ Lee

2:30 -
3:00 pm Break (Poster Session)

Session 4A: Tissue Engineering
Session Moderators: Evan Flatow, M.D. & Jeffrey Weiss, Ph.D.

3:00 pm Mouse Tendon Mechanical Properties Vary Significantly With Genetic Background and Exercise **p. 26**
VM Wang, CW Tsai, H Wolde-Semait, EL Flatow, KJ Jepsen

3:05 pm Comparison of Skin, Patellar Tendon and Medial Collateral Ligament Scars in the Same Rabbit - Biomechanical and Histological Study **p. 27**
A Omine, GM Thornton, LL Marchuk, NG Shrive, Y Funakoshi, CB Frank

3:10 pm Discussion

3:20 pm Identification of Genes Over-Expressed in Fibroblasts Derived From the Stress-Shielded Patellar Tendon-PCR-Based Subtractive Hybridization Analysis **p. 28**
N Kitamura, H Tohyama, M Hatano, M Suzuki, J Nishihira, K Yasuda

3:25 pm The Effect of Amplitude and Frequency of Cyclic Tensile Stress on the Inhibition of MMP-1 Expression in Rat Tail Tendon Cells **p. 29**
M Lavagnino, T Tian, ZM Vaupel, SP Arnoczky

3:30 pm Gene Expression and Cytoskeletal Tensional Homeostasis: Evidence for a Mechanostat Set Point in Tendon Cells **p. 30**
SP Arnoczky, T Tian, K Gardner, M Lavagnino

3:35 pm Discussion

3:45 pm Norepinephrine-Induced Calcium Signaling Via Alpha-Adrenoceptors in Avian Tendon Surface Cells and Internal Fibroblasts **p. 31**
ME Wall, X Yang, JE Faber, AJ Banes

3:50 pm Human Tendon Cells Release ATP in Response to Load or UTP **p. 32**
M Tszuzaki, D Bynum, L Almekinders, J Faber, R Graff, AJ Banes

3:55 pm Discussion

Session 4B: Pathophysiology

Session Moderators: Kazunori Yasuda, M.D., Ph.D. & Martha Murray, M.D.

- 4:05 pm Cyclic Loading Alters Biomechanical Properties and Secretion of PGE2 and NO from Tendon Explants **p. 33**
J Flick, A Devkota, M Tsuzaka, A Banes, L Almekinders, P Weinhold
- 4:10 pm The Role of the Cruciate Ligaments in Deep Knee Flexion **p. 34**
DI Caruntu, C Spanu, MS Hefzy
- 4:15 pm Variations in Tendon-to-Bone Healing in an Animal Model of Graft-Tunnel Motion: An Experimental Study in Rabbits **p. 35**
S Rodeo, HJ Kim, C Dynybil, S Kawamura, L Ying
- 4:20 pm Discussion
- 4:30 pm The Calcium Phosphate Hybridization Method Results in the Regeneration of a Direct Insertion at the Tendon-Bone Tunnel Interface **p. 36**
M Sakane, T Sato, H Mutsuzaki, I Yamaguchi, J Zeminski, Y Miyanaga, H Nakajima, J Tanaka, N Ochiai
- 4:35 pm Immunohistochemical Studies on Post-Traumatic Joint Contractures: Osteocalcin Expression in Human Elbow Joint Capsules **p. 37**
KA Hildebrand, W van Snellenberg
- 4:40 pm MMP2 Activity in ACL Versus MCL Under Injurious Stretching Conditions **p. 38**
PN Siparsky, AH Teng, KLP Sung
- 4:45 pm Discussion
- 5:00 pm Discussion of Future Direction for ISL&T
Savio L-Y. Woo, Ph.D., D.Sc. (Hon.)
- 5:30 -
6:15 pm Transportation to Kung's Dynasty Restaurant, 1912 St. Charles Ave., 504-525-6669
- 6:15 -
7:00 pm Cocktails
- 7:00 -
9:00 pm Dinner

Poster
Authors available during breaks

Session

8:00 am -
5:00 pm

CDMPs in Tendon Repair **p. 39**

P Aspenberg, C Forslund

Effect of Suture Type on the Performance Over a Suture Anchor Eyelet **p. 40**

D Acton, A Perry, R Evans, P Stephens, A Butler, W Bruce, J Goldberg, D
Sonnabend, WR Walsh

Human Tendon Cells Express Multiple Titin Isoforms with Long Spring Elements **p.**
41

AJ Banes, J Qi, X Yang, L Almekinders, D Bynum

IL-1B Induced MMP's Degrade Collagen in Rabbit Achilles Tendons **p. 42** KF

Bowman, M Tsuzaki, K Spencer, J Archambault, G Guyton, AJ Banes

Periodicity of ACL Deficient Patients During Walking: An Application of the Chaos
Theory **p.43**

AD Georgoulis, T Moraiti, G Giakas, N Stergiou, CD Papageorgiou

Cyclic Stretching of Human Patellar Tendon Fibroblasts Induces Production of
PGE2 and LTB4 in a Balanced Manner **p. 44**

ZZ Li, G Yang, M Khan, D Stone, SL-Y Woo, JH-C Wang

A Biomechanical Analysis of Braided Soft Tissue Grafts **p. 45**

N Patel, W Silver, P Weinhold, S Karas

Why is There Pain with Carpal Tunnel Syndrome **p. 46**

K Rowshan, T Chao, P Bui, LS Rummmler, T Mozaffar, R Gupta