1. Title Page:
What’s New in ACL Rehabilitation? Evidence Based Approach for the Selection and Application of Strength and Neuromuscular Control Exercises

Combined Sections Meeting 2016
Anaheim, California, February 17 -20, 2016
Date: Thursday, February18, 2016
Start/End Time:11:00 am to 1:00 pm

1) Alan Hirahara, MD, FRCSC: Sacramento Orthopaedic Center, Sacramento, CA
2) Kevin Wilk, PT, DPT, FAPTA: Champion Sports Medicine, Birmingham, AL
3) Kyle Yamashiro, PT, CSCS: Results Physical Therapy and Training Center, Sacramento, CA
4) Rafael Escamilla, PT, PhD, CSCS, FACSM: Department of Physical Therapy, California State University, Sacramento, Sacramento, CA
5) Toran MacLeod, PT, PhD: Department of Physical Therapy, California State University, Sacramento, Sacramento, CA

2. Disclosure Slide
1) Alan Hirahara, MD, FRCSC:
   Royalties & Stock options Arthrex Inc.
   Consultant Arthrex Inc.
   Research & Education Support Arthrex Inc.

2) Kevin Wilk, PT, DPT, FAPTA:
   Lite Cure Laser Company Medical Advisory Board Equipment
   Theralase Lasers Consultant Equipment
   AlterG Treadmill Medical Advisory Board Equipment
   Intelliskin USA Medical Advisory Board Equipment
   Zetrozs Medical Advisory Board Equipment
   Throw Like A Pro Co-Owner Stock
   Joint Active System
   ERMI Educational Grant
   Bauerfeind Braces Educational Grant
   Performance health Educational Grant
   Empi Medical Educational Grant
   CV Mosby Book Royalties
   Elsevier Book Royalties
   Human Kinetics Book Royalties
   Slack Publishers Book Royalties

3) Kyle Yamashiro, PT, CSCS: No relevant financial relationship exists

4) Toran MacLeod, PT, PhD: No relevant financial relationship exists

5) Rafael Escamilla, PT, PhD, CSCS, FACSM: No relevant financial relationship exists
3. Learning Objectives:
   1) Describe how ACL tensile force and lower extremity muscle activity vary among common lower extremity weight bearing and non-weight bearing rehabilitation exercises
   2) Describe copers and non-copers in the ACL deficient athlete
   3) Describe current surgical interventions in ACL reconstruction surgery
   4) Describe how proprioception and neuromuscular control drills are applied for the ACL patient, and how patients are progressed in returning back to sport
   5) Describe and provide rationale for the concepts that are currently used in ACL rehabilitation and return to sport

4. Content
   1) Presentation Title: “Cruciate Ligament Loads and Muscle Activity Among Common Lower Extremity Weight Bearing and Non-Weight Bearing Rehabilitation Exercises” by Rafael Escamilla, PT, PhD, CSCS, FACSM
      a. Describe cruciate ligament loading differences between weight bearing and non-weight bearing exercises
      b. Describes cruciate ligament loading differences with varying squatting and lunging techniques
      c. Describes cruciate ligament loading differences with varying positions of the resistance pad during the seated knee extension non-weight bearing exercise
   2) Presentation Title: “Neuromuscular control in the ACL deficient athlete: what about the potential coper?” by Toran D. MacLeod, PT, PhD
      a. Characterize the ACL injured population.
      b. Define how coping status has been measured in the clinic.
      c. Describe how neuromuscular control has been characterized scientifically and clinically.
      d. Describe interventions that have been studied in relation to coping status, and their outcomes.
      e. Reflect on the question - Does every ACL Deficient individual need surgery?
   3) Presentation Title: “What’s New in ACL Reconstruction Surgery” by Alan Hirahara, MD, FRCSC
      a. Describe the new techniques and justification of ACL Repair & Augmentation
      b. Describe the concept and ramifications of the Internal Brace
      c. Describe the history, outcomes, and technique for reconstruction of the anterolateral ligament
d. Describe the various types of OrthoBiologics used in ACL surgery, including PRP, Stem cells, and demineralized bone matrix (DBM)

e. Describe the evolution and current recommendations of tunnel placement in ACL reconstruction

f. Describe the current controversies over graft choice in ACL reconstruction

g. Describe some of the new ACL reconstruction techniques

4) Presentation Title: “Application of Strengthening Exercises, Proprioception & Neuromuscular Control Drills for the ACL Patient” by Kevin Wilk, PT, DPT, FAPTA

   a. Describe the incidence and mechanism of ACL injuries in sport
   b. Describe the neurophysiologic rational of ACL injuries
   c. Describe the role of proprioception and ACL function
   d. Describe the reestablishment of proprioception and neuromuscular control after ACL reconstruction
   e. Describe rehabilitation principles after ACL reconstruction

5) Presentation Title: “The Return to Sport & Activity Phase: Specific functional drills to return an athlete/patient back to sports” by Kyle Yamashiro, PT, CSCS

   a. Describe specific functional rehabilitation drills during the return to sport phase after ACL reconstruction
   b. Describe and assess when a patient is ready to return back to sport

5. References


