Educational Need

Injury to the anterior cruciate ligament (ACL) is one of the most devastating and frequent injuries of the knee. Because the function of the ACL is to control deceleration and rotation of the knee, it is frequently injured in sports without contact or direct trauma. Surgical reconstruction is the current standard of care for treatment of ACL injuries in the active population. Knee injuries account for 60% of high school sport-related surgeries and it is estimated that over 1 billion dollars a year are spent on ACL surgeries in the United States. Conservative treatment and primary repair has shown poor outcomes with >60% of these cases failing. Consequently, surgeons have come up with many alternate reconstructive options. Reconstructive techniques have not been without their own problems as well. Graft failures, osteoarthritis, loss of motion, meniscal lesions, chondral defects, and failure to return to sporting activity, are all very real issues facing the ACL community today.

The ACL has been the focus of many biomechanical/anatomical studies and is among the most frequently studied structures of the human musculoskeletal system over the past decade. New grafting techniques, tissue engineering, and regenerative medicine have all developed over the past decade and offer options for reconstruction/repair. Clinicians have extensively studied predisposing variables, and worked on ways to prevent ACL injury from occurring. There appears to be an increased incidence of non-contact injury between male and female athletes which brings the question of genetics, hormones, and neuromuscular strength into the discussion. The extensive literature base is frequently contradictory and leaves clinicians and practitioners wondering what are the best routes of care for their ACL injured patients.

1) Hewett TE. Current concepts for injury prevention in athletes after ACL reconstruction. AJSM 2013; 41:216-224
2) Levine JW. Clinically relevant injury patterns after an ACL injury provide insight into injury mechanisms. AJSM 2013;41:385-395
4) Czuppon S. Variables associated with return to sports following ACL reconstruction: systematic review. BJSR 2014;48:356-364
Activity Goal

The purpose of this activity will be to examine the major issues associated with ACL injury and care. Specialists in the field will provide a comprehensive review the existing body of research with the aim of helping clinicians better understand ACL injury, treatment and rehabilitation options for their ACL patients.

Target Audience

This activity is designed for primary care sports medicine physicians, athletic trainers, physician assistants, physical therapists, and other allied healthcare professionals involved in or have an interest in ACL injury.

Learning Objectives

Upon completion of this activity, participants should be better able to:

• Recognize common risk factors associated with ACL injury.
• Describe common injury mechanisms of ACL injury
• Review various treatment and graft options for the injured ACL patient.
• Describe surgical concerns for the ACL injured patient.
• Discuss potential options for future ACL reconstruction.
• List the goals, criteria and benchmarks for ACL rehabilitation and progression.
• Identify factors that may cause re-injury of a reconstructed ACL, or may cause injury to the contralateral knee.
• Describe criteria that can be utilized to improve return to play decisions.
• Describe the components of a comprehensive ACL prevention program.

Accreditation

Physicians
Rutgers, The State University of New Jersey, is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

Rutgers, The State University of New Jersey, designates this live activity for a maximum of 4.25 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Certified Athletic Trainers
University Orthopaedic Associates, LLC is recognized by the Board of Certification, Inc. to offer continuing education for Certified Athletic Trainers. This program has been approved for a maximum 4.25 hours of EBP Category continuing education. Certified Athletic Trainers are responsible for claiming only those hours actually spent participating in the continuing education activity.

Physician assistants, nurse practitioners, and nurses may participate in this educational activity and earn a letter of attendance as AAPA, AANP, and ANCC accept AMA PRA Category 1 Credits™ through their reciprocity agreements.
**Method of Participation**

In order to meet the learning objectives and receive continuing education credits, participants who are expected to sign in at the registration desk, attend the educational program, and complete the credit request and evaluation forms at the conclusion of the activity. Athletic Trainers are required to complete the activity post-test as well.

A letter certifying attendance and credit verification will be mailed to participants within 4 weeks.

Athletic trainers will be provided with their certificate of attendance/CEUs upon receipt of their completed evaluation and post-test.

**University Orthopaedic Associates, LLC Faculty**

**Jeffrey R. Bechler, MD**, Orthopaedic Surgeon; Clinical Associate Professor of Orthopaedic Surgery, Rutgers Robert Wood Johnson Medical School

**Charles J. Gatt, Jr., MD**, Orthopaedic Surgeon; Associate Professor and Chair, Department of Orthopaedic Surgery, Rutgers Robert Wood Johnson Medical School

**Timothy M. Hosea, MD**, Orthopaedic Surgeon; Clinical Associate Professor of Orthopaedic Surgery, Rutgers Robert Wood Johnson Medical School

**Eric Nussbaum, MEd, ATC, LAT**, Athletic Trainer

**Jessica Spivey, MS, PT**, Physical Therapist

**Blake Swan, CSCS, TSAC-F, FMS, CPT, PHB**, Sports Performance Coordinator

**Kenneth G. Swan, MD**, Orthopaedic Surgeon; Clinical Assistant Professor of Orthopaedic Surgery, Rutgers Robert Wood Johnson Medical School

**Activity Director**

**Eric Nussbaum, MEd, ATC, LAT**

**Planning Committee**

**Charles J. Gatt, Jr., MD**
**Kenneth G. Swan, MD**
**Eric Nussbaum, MEd, ATC, LAT**
Agenda

7:30 am  Introduction
7:40 am  The Anatomy and Epidemiology of ACL Injury  
         Charles J. Gatt, Jr., MD
8:05 am  ACL Injury: What are the Risk Factors?  
         Kenneth G. Swan, MD
8:30 am  Treatment Options  
         Jeffrey R. Bechler, MD
8:55 am  Surgical Technique  
         Timothy M. Hosea, MD
9:20 am  Break
9:35 am  What is the Future of ACL Reconstruction?  
         Charles J. Gatt, Jr., MD
10:00 am Case Presentations: What Would You Do?  
         Why Would You Choose that Graph?  
         Moderator: Charles J. Gatt, Jr., MD,  
         Panelists: Timothy M. Hosea, MD, Jeffrey R. Bechler, MD and Kenneth G. Swan, MD
10:30 am  ACL Rehab  
         Jessica Spivey, MS, PT
11:00 am  Return To Play Criteria  
         Eric Nussbaum, MEd, ATC, LAT
11:20 am  Risk of Re-Injury: What Are the Risks?  
         Kenneth G. Swan, MD
11:40 am  ACL Prevention: Before and After Injury  
         Blake Swan, CSCS, TSAC-F, FMS, CPT, PHB
12:00 pm  Closing Remarks
12:10 pm  Lunch

Peer Review

In order to help ensure content objectivity, independence, and fair balance, and to ensure that the content is aligned with the interest of the public, CCOE has resolved all potential and real conflicts of interest through content review by non-conflicted, qualified reviewers. This activity was peer-reviewed for relevance, accuracy of content, and balance of presentation by: Eric Nussbaum, Med, ATC, LAT and Kenneth G. Swan, MD.
**Disclosure Declarations**

In accordance with the disclosure policies of Rutgers and to conform with ACCME and FDA guidelines, individuals in a position to control the content of this educational activity are required to disclose to the activity participants: 1) the existence of any relevant financial relationship with any entity producing, marketing, re-selling, or distributing health care goods or services consumed by, or used on, patients, with the exemption of non-profit or government organizations and non-health care related companies, within the past 12 months; and 2) the identification of a commercial product/device that is unlabeled for use or an investigational use of a product/device not yet approved.

**Faculty**

The following faculty have no relevant financial relationships to disclose.

Jeffrey R. Bechler, MD  
Charles J. Gatt, Jr., MD  
Timothy M. Hosea, MD  
Eric Nussbaum, Med, ATC, LAT  
Jessica Spivey, MS, PT  
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**CCOE Staff**

Patrick Dwyer, Director, Continuing Medical Education, has no relevant financial relationships to disclose.

**Off-Label/Investigational Use**

This activity does not contain information on commercial products/devices that are unlabeled for use or investigational uses of products not yet approved.

**Disclaimer**

The views expressed in this activity are those of the faculty. It should not be inferred or assumed that they are expressing the views of any manufacturer of pharmaceuticals or devices, or Rutgers.

It should be noted that the recommendations made herein with regard to the use of therapeutic agents, varying disease states, and assessments of risk, are based upon a combination of clinical trials, current guidelines, and the clinical practice experience of the participating presenters. The drug selection and dosage information presented in this activity are believed to be accurate. However, participants are urged to consult all available data on products or procedures before using them in clinical practice.

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