



March 26–March 31, 2006  
 Hapuna Beach Prince Hotel  
 Kohala Coast, Hawaii



The ACL Study Group acknowledges/appreciates the support of unrestricted educational grants from the following sponsors:



**Sunday, March 26, 2006**

6p-7pm Informal Reception/registration

**Monday, March 27, 2006 – Makai Ballroom**

6:30 a.m. – 7:15a.m. Continental Breakfast/ Registration

**7:15 a.m. – 7:45 a.m. Welcome and Introduction**

**Session 1**

Moderator: John Bergfeld, MD.

**7:45 a.m. – 8:00 a.m.**

John Campbell "Trends with ACL, PCL, MCL and Cartilage Problems within ACL Study Group Members"

**8:00 a.m. - 8:07 a.m.**

The Native ACL: A Biomechanical Analysis of Strain Behavior of the Anteromedial and Posterolateral Bundles Through Full Knee Range of Motion – Robert A. Arciero, MD, Farmington, Connecticut, USA

**8:07 a.m. – 8:14 a.m.**

Injury Trends and Risk Factors Involving ACL Injuries in Alpine Skiing – Robert J. Johnson, MD, Burlington, Vermont, USA

**8:14 a.m. – 8:21 a.m.**

Active and Passive Mechanisms of ACL Rupture: Correlation with MRI and Operative Findings of Injury Severity – David A. Parker, MD, Chatswood, NSW, Australia (Brian Casey)

**8:21 a.m. – 8:28 a.m.**

Restoration of Normal Joint Play: The Correlation of Axial Tibial Rotation, Anterior Laxity and Patient Satisfaction in the Anterior Cruciate Reconstructed Knee – Thomas Branch, MD, Decatur, Georgia, USA

**8:28 a.m. – 9:00 a.m. DISCUSSION**

**Session 2**

Moderator: John Bartlett, MD.

**9:00 a.m. – 9:07 a.m.**

Towards Early Detection of Osteoarthritis: Assessing Human Articular Cartilage by Scanning Force Microscopy – Niklaus F. Friederich, MD, Basel, Switzerland

**9:07 a.m. – 9:14 a.m.**

The Osteoarthritis Matrix – Scott F. Dye, MD, San Francisco, California, USA

**9:14 a.m. – 9:21 a.m.**

The ACL Risk Equation: Does ACL Reconstruction Prevent Articular Degeneration? – Paul H. Marks, MD, Toronto, Canada

**9:21 – 9:28 a.m.**

Osteoarthritis and Function after ACL Rupture. 12 Year follow-up Results after Non-operative vs. Operative Treatment – Markus Kessler, MD

**9:28 a.m. – 9:50 a.m. DISCUSSION**

**9:50 a.m. – 10:20 a.m. BREAK WITH EXHIBITORS**

**Session 3**

Moderator: Chris Kaeding, MD.

**10:20 a.m. – 10:27 a.m.**

Pattern of Osteoarthritis and Meniscal Damage in Knees Based on ACL Status – Brian Crites, MD, (Jim Bocell & Jon Browne)

**10:27 a.m. – 10:34 a.m.**

Incidence of Extension Loss following ACL Reconstruction–James H. Lubowitz, MD, Taos, New Mexico, USA

**10:24 a.m. – 10:31 a.m.**

How Well do Posterolateral Reconstructions Restore Varus Stability to the PCL Reconstructed Knee? – David McAllister, MD, Los Angeles, California, USA

**10:31 a.m. – 11:00 a.m. DISCUSSION**

**11:00 a.m. – 11:40 a.m.**

**Introduction- John A. Bergfeld, M.D.**

**1<sup>st</sup> Breg/ACL Study Group Traveling Scientist**

**Introduction - Andrew Amis, MD**

**11:40 a.m. – Noon** Special Lecture: The Important of Nutrition to Joint Health– Tom Rosenberg, MD.

**Noon – 1:00 p.m. LUNCH BREAK – on your own**

**Session 4**

Moderator: K. Don Shelbourne, MD

**1:00 p.m. – 1:07 p.m.**

Anatomical and Histological Study of the Anterior Cruciate Ligament in the Human Fetus – Mario Ferretti, MD, Pittsburgh, Pennsylvania, USA (Andrew Amis, MD.)

**1:07 p.m. – 1:14 p.m.**

Double-Bundle ACL Reconstruction: Single Versus Double Incision – Paolo Aglietti, MD, Florence, Italy

**1:14 p.m. – 1:21 p.m.**

Comparison of double bundle anatomic, single antero-medial, and single postero-lateral ACL reconstructions. Short term prospective – randomized follow-up study - Masahiro Kurosaka, MD, Kobe, Japan

**1:21 p.m. – 1:28 p.m.**

ACL Revision: Double Bundle Augmentation of Primary Vertical Graft – Ronald Selby, MD, New York, New York, USA (John Bergfeld, MD)

**1:28 – 2:00 p.m. DISCUSSION**

**Session 5**

Moderator: Mary Lloyd Ireland, MD.

**2:00 p.m. – 2:07 p.m.**

Assessment of Femoral Fracture Risk of Single- and Double-Bundled ACL Reconstruction – Kevin Bell, MD, Pittsburgh, Pennsylvania, USA (Freddie Fu, MD.)

**2:07 p.m. – 2:14 p.m.**

The Influence of Tunnel-Graft Length of the Biomechanics of ACL Reconstructed Knees: A Study in a Goat Model – Thore Zantop, MD, Pittsburgh, Pennsylvania, USA (Roger Larson, MD)

**2:14 p.m. – 2:21 p.m.**

Knee Dislocation with Lateral Side Injury: Outcome Results of Surgical Repair to the Lateral Side – K. Donald Shelbourne, MD, Indianapolis, Indiana, USA

**2:21 p.m. – 2:28 p.m.**

AM and PL Bundle of the ACL: Anatomical and Radiographic Findings with Regard to Tunnel Positioning – Wolf Petersen, MD, Pittsburgh, Pennsylvania, USA (Andrew Amis, MD.)

**2:28 p.m. – 2:35 p.m.**

ACL augmentation Procedure with One-incision Technique – Anteromedial Bundle or Posterolateral Bundle Reconstruction – Mitsuo Ochi, MD, Hiroshima, Japan

**2:35 p.m. – 3:05 p.m. DISCUSSION**

**3:05 p.m. – 3:45 p.m. BREAK WITH EXHIBITORS**

3:45 p.m. – 5:15 p.m.

**Round Table Number 1**

**Moderator: Roger V. Larson, MD, Seattle, WA, USA**  
**Double Bundle ACL Reconstruction**

**TUESDAY, MARCH 28, 2006 - Makai Ballroom**

**6:30 a.m. – 7:00 a.m. Continental Breakfast**

**7:00 a.m. – 8:00 a.m. Business Meeting #1**

**Session 6**

Moderator: John Feagin, MD.

8:00 a.m. – 8:07 a.m.

A Comparison of Patellar Tendon and Hamstring Tendons for ACL Reconstruction using Similar Femoral and Tibial Fixation Methods: A Randomized Study – Dean Taylor, MD, Minneapolis, MN, USA

8:07 a.m. – 8:14 a.m.

ACL Reconstruction Graft Selection: Patient Concerns and Priorities – Walter Lowe, MD, Houston, Texas, USA (John Bergfeld, MD.)

8:14 a.m. – 8:21 a.m.

Choice of Patellar Tendon or Hamstring Grafts for ACL Reconstruction from an Economic Point of View – Magnus Forssblad, MD, Stockholm, Sweden (Ejnar Eriksson, MD.)

8:21 a.m. – 8:28 a.m.

Comparison of Patients Receiving Autografts, Allografts, and Xenografts: MRI Findings – John V. Crues III, MD, San Francisco, California, USA (Kevin Stone, MD.)

**8:28 a.m. – 9:00 a.m. DISCUSSION**

**Session 7**

Moderator: Kurt Spindler, MD.

9:00 a.m. – 9:07 a.m.

The Effects of Donor Age and Low Dose Irradiation on the Initial Tensile Properties of Human Tibialis Tendon Allografts – Charles Brown, MD, Boston, Massachusetts, USA (Mark Clatworthy)

9:07 a.m. – 9:14 a.m.

Anterior Tibialis Tendon Allograft ACL Reconstruction: A Two-Year Clinical Follow-up Study – Daniel T. Keefe, MD, Houston, Texas, USA

9:14 a.m. – 9:21 a.m.

Revision and Re-operation Rate in Tibialis Allograft Anterior Cruciate Reconstructions: A Series of 189 Grafts from Multiple Tissue Banks – Christopher Kaeding, MD, Columbus, Ohio, USA

9:21 a.m. – 9:28 a.m.

Anterior Cruciate Ligament Reconstruction with a Porcine Xenograft – Kevin Stone, MD, San Francisco, California, USA

**9:28 a.m. – 10:00 a.m. DISCUSSION**

**10:00 a.m. – 10:20 a.m. BREAK WITH EXHIBITORS**

**Session 8**

Moderator: Jason Koh, MD.

10:20 a.m. – 10:27 a.m.

Clinical and Microscopic Evaluation of Refrigerated and Frozen Allografts: Correlation with Shelf Life and Harvest Time – Albert W. Pearsall IV, MD, Mobile, Alabama, USA

10:27 a.m. – 10:34 a.m.

The Use of Allograft/Dissolvable Bone Screws and Aperture Fixation in Allograft Bone-Patellar Tendon-Bone ACL Reconstructions – Stephen W. Houseworth, MD, Shreveport, Louisiana, USA

10:34 a.m. – 10:41 a.m.

Notch Measurements – A. Anderson, MD, Nashville, Tennessee, USA

10:41 a.m. – 10:48 a.m.

Radiofrequency Electrothermal Shrinkage of the Anterior Cruciate Ligament – Thomas Carter, MD, Tempe, Arizona, USA

**10:48 a.m. – 11:15 a.m. DISCUSSION**

**11:15 a.m. – Noon**

**John Feagin Lecture**

**Dr. Davianna McGregor and Dr. Noa Emmett Aluli, MD**

Native Hawaiian History and Health of Native Hawaiians

**Noon – 1:00 p.m. LUNCH BREAK – on your own**

**Session 9**

Moderator: David McAllister, MD.

1:00 p.m. – 1:07 p.m.

Use of a Computerized Optical Tracking System to Evaluate Rotational and Translational Laxity Pre- and Post- Anterior Cruciate Ligament Reconstruction – Jason Koh, MD, Chicago, Illinois, USA

1:07 p.m. – 1:14 p.m.

Evaluation of a New Measurement Device for Rotational Knee Laxity – Volker Musahl, MD, Pittsburgh, Pennsylvania, USA (Roger Larson, MD.)

1:14 p.m. – 1:21 p.m.

Comparative Study of Knee Anterior Cruciate Ligament Reconstruction with and without Fluoroscopic Assistance. A Prospective and Randomized Study of 73 Patients. Bernard Moyen, MD, Lyon, France

1:21 p.m. – 1:28 p.m.

Fluoroscopic Based Navigation of Bone Tunnels in ACL Reconstruction. Does it Work? Does it Help? – Jurgen Hoher, Cologne, Germany (Hermann Mayr, MD)

**1:28 p.m. – 2:00 p.m. DISCUSSION**

**Session 10**

Moderator: Mark Clatworthy, MD.

2:00 p.m. – 2:07 p.m.

Intraoperative Kinematic Evaluation of ACL Reconstruction: New Navigated Protocol – Stefano Zaffagnini, MD, Bologna, Italy (Jason Koh, MD.)

2:07 p.m. – 2:14 p.m.

Landing Strategies after ACL Reconstruction – An Electromyographic Analysis – Alli Gokeler, Groningen, Netherlands (Markus Arnold, MD.)

2:14 p.m. – 2:21 p.m.

TBD

2:21 p.m. – 2:28 p.m.

Non-contact ACL Injuries – Prevention is Impossible if We Don't Know the Cause – Scott G. McLean, PhD, Cleveland, Ohio, USA (John Bergfeld, MD.)

2:28 p.m. – 2:35 p.m.

Biomechanical Epidemiological Studies Show Valgus Measures Predict ACL Injury Risk – Timothy Hewitt, PhD, Cincinnati, Ohio, USA (John Bergfeld, MD.)

**2:35 p.m. – 3:10 p.m. DISCUSSION**

**3:10 p.m. – 3:40 p.m. BREAK WITH EXHIBITORS**

3:40 p.m. – 5:15 p.m. Round Table Number 2

**Mary Lloyd Ireland, MD., Lexington, KY, USA**  
**Strategies for Preventing ACL Injuries**

6:30 p.m. – 9:30 p.m. Hawaiian Luau – Courtyard  
(all attendees invited including families)

**WEDNESDAY, MARCH 29, 2006**

**ENJOY YOUR FREE DAY**

**THURSDAY, MARCH 30, 2006- Makai Ballroom**

**6:30 a.m. – 7:00 a.m. Continental Breakfast**

**Session 11**

Moderator: Steve Howell, MD.

7:00 a.m. – 7:07 a.m.

The Control of the Knee Kinematics Achieved by Single versus Double-Bundle Anterior Cruciate Ligament Reconstruction: Intra-operative Measurement using Surgical Navigation – Philippe Colombet, MD., France (Burt Klos, MD.)

7:07 a.m. – 7:14 a.m.

Revision ACL Reconstruction: Causes, Solutions and Prevention – David McGuire, MD, Anchorage, Alaska, USA

7:14 a.m. – 7:21 a.m.

Anterior Cruciate Ligament Revision: A Follow-up of 106 Cases – Bjorn K.O. Engstrom, MD, PhD, Stockholm, Sweden

7:21 a.m. – 7:28 a.m.

PCL Impingement in ACL Reconstruction, a potential cause of flexion deficit and graft elongation. An experimental and clinical study – Karl Eriksson, MD, PhD, Stockholm, Sweden (John Bartlett, MD.)

**7:28 a.m. – 8:00 a.m. DISCUSSION**

**Session 12**

Moderator: Julian Feller, MD.

8:00 a.m. – 8:07 a.m.

Arthroscopic Reconstruction of the Anterior Cruciate Ligament With Versus Without Extra Articular Tenodesis –Philippe Neyret, MD., Lyon, France

8:07 a.m. – 8:14 a.m.

Two to Eight Year Clinical and Radiographic Outcomes after ACL Reconstruction: The Influence of Osseous Contusions, Meniscal and Chondral Pathology – Thomas Klootwyk, MD, Indianapolis, IN, USA

8:14 a.m. – 8:21 a.m.

Tibial Fixation of ACL Grafts with a Retrograde Interference Screw Technique – 29 Months Follow-up – Werner Siekmann, MD, Hamburg, Germany (Dietrich Dressler, MD.)

8:21 a.m. – 8:28 a.m.

Should the Femoral Tunnel be at the 1 or 2 o'clock Position in One Bundle ACL Reconstruction? A Prospective Randomized Double Blind Study – Peter Faunoe, MD, Randers, Denmark (Roger Larson, MD.)

**8:28 a.m. – 9:00 a.m. DISCUSSION**

**Session 13**

Moderator: Freddie Fu, MD

9:00 a.m. – 9:07 a.m.

Tunnel Widening in Sheep. A Radiological, MRI and Histological Study – Mark Clatworthy, MD, Auckland, New Zealand

9:07 a.m. – 9:14 a.m.

Impact of Measurement Error in the Analysis of Bone Tunnel Enlargement after Anterior Cruciate Ligament Reconstruction – Julian Feller, MD, Bundoora, Australia

9:14 a.m. – 9:21 a.m.

ACL Reconstruction with Hamstring Graft. Influence of Compaction Drilling on Tunnel Widening: A Prospective Randomized Study – Rainer Siebold, MD, Pforzheim, Germany (Hayden Morris, MD.)

9:21 a.m. – 9:28 a.m.

Prospective Incidence of Contralateral Normal ACL Tear after ACL Reconstruction – Kurt Spindler, MD, Nashville, Tennessee, USA

**9:28 a.m. – 10:00 a.m. DISCUSSION**

**10:00 a.m. – 10:30 BREAK WITH EXHIBITORS**

**Session 14**

Moderator: Mitsuo Ochi, MD.

10:30 a.m. – 10:37 a.m.

ACL Reconstruction in Young Soccer Players – Jose Huylebroek, MD, Brussels, Belgium (John Bergfeld, MD.)

10:37 a.m. – 10:44 a.m.

Utility of the Frontal Plane Projection Angle of the Knee during Single Leg Squats – Irene Davis, PhD, Newark, Delaware, USA (Mary Lloyd Ireland, MD.)

10:44 a.m. – 10:51 a.m.

Medial Opening Wedge Tibial Osteotomy and the Sagittal Plane: The Effect of Tibial Slope on Tibiofemoral Contact Pressures – Robert Arciero, MD, Farmington, Connecticut, USA

10:51 a.m. – 10:58 a.m.

High Tibial Valgisation Osteotomy: A Key for Successful ACL Revision Reconstruction in Patients without Malalignment or Osteoarthritis – Roland Biedert, MD, Magglingen, Switzerland

**10:58 a.m. – 11:25 a.m. DISCUSSION**

**11:25 a.m. – Noon Business Meeting #2**

**12:00 p.m. – 1:00 p.m. LUNCH BREAK – on your own**

**Session 15**

Moderator: Don Johnson, MD.

1:00 p.m. – 1:07 p.m.

Joint Line Fixation with an Interference Screw does not Restore Anterior Laxity and Stiffness Better than Distal Fixation in Human Knees – Stephen Howell, MD, Sacramento, California, USA

1:07 p.m. – 1:14 p.m.

Comparison of XtraLoc versus Intrafix Tibial Fixation in Hamstring Anterior Cruciate Ligament Reconstruction: A Randomized Clinical Trial – Don Johnson, MD, Ottawa, Canada

1:14 p.m. – 1:21 p.m.

Graft Fixation using a Novel Bioabsorbable Expansion Bolt: Biomechanical Evaluation and Clinical Results – Klaus Lehrberger, MD, Munich, Germany

1:21 p.m. – 1:28 p.m.

Press Fit Fixation of the ACL-plasty by Osteoconductive Dowels – A Biomechanical in Vitro Study – Hermann Mayr, MD, Munich, Germany

**1:28 p.m. – 2:00 p.m. DISCUSSION**

**Session 16**

Moderator: Don Johnson, MD.

2:00 p.m. – 2:07 p.m.

A New Algorithm for Selecting Meniscal Allografts that Best Match the Size and Shape of the Damaged Meniscus – Maury Hull, PhD, Davis, California, USA

2:07 p.m. – 2:14 p.m.

Use of a Collagen-Platelet Poor Plasma Scaffold to Stimulate Healing of a Central Defect in the Canine ACL – Martha Murray, MD, Boston, Massachusetts, USA

2:14 p.m. – 2:21 p.m.

Tissue Gain after Placement of a Collagen Meniscus Implant Following Partial Meniscectomy – William Rodkey, DVM, Vail, Colorado, USA

2:21 p.m. – 2:28 p.m.

Minimally Invasive All-inside ACL Reconstruction – Yasumitsu Ohkoshi, MD, PhD, Hakodate, Japan (Don Johnson, MD.)

**2:28 p.m. – 3:00 p.m. DISCUSSION**

**3:00 p.m. – 3:30 p.m. BREAK WITH EXHIBITORS**

**3:30 p.m. – 4:45 p.m. Round Table Number 3**

**Moderator: Martha Murray, Boston, MA, USA  
Primary Healing of ACL Tears: Present and Future**

**6:00 p.m. – 9:30 p.m. Farewell Banquet (Adults only)**

**FRIDAY, MARCH 31, 2006 - Makai Ballroom**

**7:00 a.m. – 7:30 a.m. Continental Breakfast**

**7:30 a.m. – 9:00 a.m. Round Table Number 4**

**Moderator: Julian Feller, Bundoora, Australia  
Multiple Ligament Injured Knee**

**Session 17**

Moderator: Roger Larson, MD.

9:00 a.m. – 9:07 a.m.

Single Achilles Allograft MCL/PCL Reconstruction (SAMP): Preliminary Results of a Novel Technique – Chris Wahl, MD, Seattle, Washington, USA (Roger Larson, MD.)

9:07 a.m. – 9:14 a.m.

Tension to ACL Graft during Active Leg Raising Against Gravity – Tatsuo Mae, MD, Osaka, Japan (Konsei Shino, MD.)

9:14 a.m. – 9:21 a.m.

Late Reconstruction of Multiple-Ligament Injured and Fractured Knee – Anders Valentin, MD, Stockholm, Sweden (Bjorn Engstrom, MD.)

9:21 a.m. – 9:28 a.m.

Beware the Fibular head Avulsion Fracture – The Anatomical Pattern of Posterolateral Corner Injury and its Relation to the Common Peroneal Nerve – Andy Williams, MD, London, England

**9:28 a.m. – 10:00 a.m. DISCUSSION**

**10:00 a.m. – 10:30 a.m. BREAK WITH EXHIBITORS**

**Session 18**

Moderator: John Bergfeld, MD.

10:30 a.m. – 10:37 a.m.

Pre- vs. Postoperative Intraarticular Application of Local Anesthetics and Opioids vs. Femoral Nerve Block in Anterior Cruciate Ligament Repair – E. Otto Muench, MD, Munich, Germany

10:37 a.m. – 10:44 a.m.

Primary Repair with Semitendinosus Tendon Augmentation versus Reconstruction using Patellar Tendon Autograft of Acute Anterior Cruciate Ligament Injuries: 15 Years Follow with Respect on Stability and Incidence of osteoarthritis – Alwin Jaeger, MD, Frankfurt, Germany

10:44 a.m. – 10:51 a.m.

The Influence of Preoperative Cooling on Central Knee Temperature during Arthroscopy and ACL Reconstruction – H.H. Paessler, MD, Heidelberg, Germany

**10:51 a.m. – 11:20 a.m. DISCUSSION**

**ADJOURN**

**INVITED POSTER EXHIBITS**

Arturo Almazan, MD.:

Role of the Paratenon in the Soft Tissue's Graft Integration to Bone Tunnel

Matteo Denti, MD.:

Clinical Results of Revision ACL Reconstruction

Magnus Forssblad, MD.:

IT – systems for ACL Surgery

Jason Koh, MD.:

Differences in the Reduction in ACL Strain by the Medial and Lateral Hamstrings: A Cadaveric Study

Walter Lowe, MD.:

Anterior Tibialis Tendon Allograft ACL Reconstruction: A Two-Year Clinical Follow-up Study

Differences in Ligament Molecule Structural Compositions Between Males and Females

Hans Paessler, MD.:

ACL Revision Reconstruction in 104 Patients – Three to Nine Years Follow-up Results

Influence of Pre-operative Cryo-Therapy on Post-operative Morbidity after Arthroscopically Assisted Reconstruction

Changes of Intraarticular Knee Temperature under Different Thermic Conditions in Sports: An In-vitro Study of Jogging and Alpine Skiing

William Rodkey, MD.:

Development and Use of the "Tegner Index" to Assess Effectiveness of Arthroscopic Treatment of the Knee Meniscus on Return to Activity

Werner Siekmann, MD.:

Isolated Comparison Hamstrings Versus BTB in ACL Replacement

Stefano Zaffagnini, MD.:

In-vitro Evaluation of Two Different Femoral Tunnel Orientations in Double-Bundle ACL Reconstruction

Thore Zantop, MD.:

Bridge Stability of Anatomical ACL Reconstruction

Current Techniques of Anatomical ACL Reconstructions

Biomechanical Evaluation of Two Techniques for Double Bundle ACL Reconstruction: One Tibial Tunnel Versus Two Tibial Tunnels

Biomechanical Evaluation of Different Fixation Methods for Tibial Eminence Fractures