

AWARDS WINNERS IN OSLO 2010



THE NICOLA'S FOUNDATION YOUNG RESEARCHER AWARD (< 40Y)

Sponsored by **The Nicola's Foundation** Prize money: **1.500 EUR** Winner: **Coen Wijdicks**
Title: **Mechanical Properties of the primary medial knee structures.**



Quantitative anatomy and biomechanical studies have recently recognized that the individual components of these structures have different functional elements. The superficial MCL has 2 tibial attachments that effectively divide it into 2 functional units—the proximal and distal divisions. The posterior oblique ligament (POL) consists of superficial, central, and capsular arms, with the central arm being the main component. The deep MCL is composed of menisofemoral and

meniscotibial components. Despite uncertainty about the most appropriate management of acute combined grade III medial knee injuries, surgical reconstruction is usually necessary for symptomatic chronic medial knee injuries. The native structural strengths of the individual components of the main medial knee structures—whose function and importance has been recently quantified—have not yet been well described. Identification of the maximum structural loads tolerated by the proximal and distal tibial attachments of the superficial MCL, the central

arm of the POL, and the deep MCL in isolation is necessary to guide strength requirements for fixation and reconstruction of these structures for operative management of medial knee injury. The mean load at failure for the superficial MCL with the intact femoral and distal tibial attachments was 557 N. Mean load at failure was 88 N for the intact femoral and proximal tibial divisions of the superficial MCL, 256 N for the POL, and 101 N for the deep MCL (Figure 2). We conclude that, despite being of vastly different strengths, the 2 tibial attachments of the superficial MCL sustain

clinically important loads, as do the central arm of the POL and the deep MCL. Anatomic medial knee reconstructions may take these results into account and so require a proximal tibial superficial MCL attachment consisting of a suture plus bony anchor or a strong suture to secure the superficial MCL reconstruction graft to adjacent soft tissues to allow tissue integration and full ligament functionality during load bearing. In severe medial knee injuries, the robust capsular arm of the POL should be considered for consequent surgical reconstruction using a graft of suitable strength.



AWARD FOR BEST PAPER IN LIGAMENT AND BIOMECHANICS

Sponsored by **Smith & Nephew** Prize money: **2.000 USD** Winner: **Colin Anderson**
Title: **The Kinematic Impact of Anteromedial and Posterolateral Bundle Graft Fixation Angles on Double-Bundle Anterior Cruciate Ligament Reconstructions.**



The potential that double-bundle ACL reconstructions could improve the quality of ACL reconstructions has generated a large body of recent research. However, many variables exist in how the double-bundle ACL reconstructions are performed that may be limiting the success of the procedures. Our study focused on graft

fixation angles, which are the angles that the knee is flexed to during fixation of each graft. Currently there is no consensus on an optimal set of graft fixation angles for the anteromedial and posterolateral bundles of the ACL. We tested seven different combinations of graft fixation angles, more than have ever been tested to date. We found that

tenioning of the posterolateral bundle at 30 degrees of knee flexion and above significantly over-constrained normal knee laxity, while tenioning of the posterolateral bundle at 15 degrees and below did not over-constrain knee laxity. However, no fixation combination of the anteromedial bundle between 0 and 75 degrees resulted in knee over-constraint,

as long as the posterolateral bundle was fixed at or below 15 degrees. Therefore, it is important to fix the posterolateral bundle in or near full extension when performing double-bundle ACL reconstructions to avoid altering the kinematics of the tibio-femoral joint.

Sincerely,
Colin Anderson



RESEARCH GRANT IN SPORTS TRAUMATOLOGY AND REHABILITATION

Sponsored by **DJO** Prize money: **15.000 USD** Winner: **Olaf Lorbach**
Title: **Evaluation of the biomechanical properties and the impact of Patellofemoral joint pressure of different autografts in MPFL reconstruction : facia lata versus gracilis tendon.**



The pathology of patellofemoral instability involves multiple factors. Therefore, an anatomic treatment option is difficult to achieve. Even if MPFL rupture or elongation is mostly only a consequence of the dislocation but not the initial instability factor, it provides good clinical short term

results with low dislocation rates. In order to be anatomically as possible, the autograft or allograft for the repair should be comparable in the biomechanical properties to the native MPFL. As the semitendinosus tendon as well as the gracilis tendon show significant biomechanical

differences compared to the native MPFL, other alternatives might more anatomically restore normal knee kinematics which might improve long term results especially in the prevention of patellofemoral osteoarthritis.



PORTO AWARD "Innovation in Arthroscopy"

Prize money: **2.500 EUR** Winner: **Nicolas Pujol**
Title: **Anatomic double bundle ACL reconstruction using a bone-patellar tendon-bone autograft.**



Dear ESSKA committee, It was a real honour to be selected in Oslo as innovation paper in arthroscopy. This cadaveric study has three points of interests. The most important finding of this study is that it's technically possible to perform a double bundle ACL reconstruction

with a bone-patellar tendon-bone autograft and a separate tensioning of the bundles. For BPTB graft users our technique is an alternative to double bundle reconstruction with hamstring tendons, but it is a demanding technique. The other point is the hybrid method

of drilling the femoral tunnels. The AM tunnel is drilled through the AM portal, and the PL is drilled with an outside-in technique. It allows a good divergence between the 2 tunnels (more than 30°), thereby minimizing the risk of tunnel breakage or communication.

At last, this hybrid method is suitable for all graft types (hamstrings, quadriceps tendon, allografts). I'm available for any further questions, if needed.

Best regards,
Nicolas Pujol



BEST POSTER AWARD

Sponsored by **ESSKA** Price money: **500 EUR**

THIS AWARD IS GIVEN TO THE BEST POSTER IN THE FOLLOWING 6 SUB-CATEGORIES:

- DEGENERATIVE KNEE
- LIGAMENTS
- ACL
- BASIC SCIENCE
- SHOULDER
- SPORTS MEDICINE

DEGENERATIVE KNEE

Title: **Slope, patellar height and tibial torsion in valgus HTO – results of a prospective study.**
Author: K. Beitzel, Germany
Co-Authors: kirchhoff C., Paul J., Sauerchnig M., Imhoff A., Hinterwimmer S.

LIGAMENTS

Title: **Untreated posterolateral knee injuries: biomechanical and MRI evaluation of in-vivo canine model.**
Author: C. Griffith, United States
Co-authors: Laprade R., Pepin S., Wijdicks C., Goerke, U., Michaeli S., Ellermann J.

ACL

Title: **Non-operative vs. operative treatment of anterior cruciate ligament rupture – 15 to 19 years follow-up results.**
Author: P. Lukasik, Poland
Co-authors: widuchowski J., Widuchowski W., Faltus R., Kwiatkowski G.

BASIC SCIENCE

Title: **One stage osteochondral repair with cartilage fragments in a hyaluronic acid/fibrin glue/platelet rich plasma scaffold: in vitro human and in vivo rabbit and goat animal model.**
Author: A. Marmotti, Italy
Co-authors: Bonaria D. E., Bruzzone M., Castoldi F., von Degerfeld M. M., Maiello A., Peirone B., Realmuto C., Rossi R.

SHOULDER

Title: **Engaging vs. non-engaging Hill-Sachs defects within the functional shoulder range of motion.**
Author: R. Najarian, United States
Co-authors: Fening S., Jones M., Miniaci A.

SPORTS MEDICINE

Title: **Mid-term results of arthroscopic capsular shrinkage for chronic lateral ankle instability.**
Author: J. De Vries, Netherlands
Co-Authors: Koning A., Krips R., Blankevoort L., Van Dijk N.