Repairs versus 20% reconstructions, p = 0.003). There was no difference between repair and reconstruction cohorts for post-op stability as measured with side-side laxity on KT-1000 (1.8mm ± 1.4mm versus 1.5mm ± 2.0mm, p = 0.905) or GNRB (1.6mm ± 1.8mm versus 1.5mm ± 2.0mm, p = 0.850). Differences were seen on 12-month MRI analysis with repairs showing higher SNQ at both femoral (8.3 ± 5.7 versus 4.6 ± 2.9, p = 0.009) and tibial sites (10.0 ± 5.7 versus 4.3 ± 4.2, p = 0.001), with no difference seen at the mid-substance between the groups (12.3 ± 8.5 versus 7.6 ± 5.2, p = 0.074). Repairs demonstrated higher values on average (10.0 ± 5.7 versus 4.3 ± 4.2, p = 0.001). There were no graft failures on MRI in either group. Conclusions: When patient selection is optimised for Sherman Type I or II tears, ACL repairs demonstrate equivalent patient-reported outcomes and better objective outcomes (hamstrings strength) to reconstructions at an earlier time point post-surgery. Tissue quality as assessed on MRI shows higher signal at tibial and femoral attachment sites.

Category: Knee - Other

Lateral Tibial Plateau Translation on MRI is Associated with Measured Laxity at One Year Following ACLR

Abstract ID# 22667
All Authors:
Payam Tarassoli MBChB, Bsc, DipSEM, MD, FRCS AUSTRALIA
Yoong Lim Beng, PhD AUSTRALIA
Alexander S. Nicholls MSc, FRACS AUSTRALIA
David A. Parker MBBS, BMedSc, FRACS AUSTRALIA

Summary:
Lateral tibial plateau translation on MRI is associated with measured laxity at one year following ACLR.

Data:
Introduction Anterior lateral tibial plateau translation (ATT) as measured on MRI has been shown to be predictive of anterior cruciate ligament (ACL) rupture and is correlated with high grade rotatory laxity in ACL deficient knees. Post-operative laxity following ACL reconstruction (ACLR) has also been shown to predict re-rupture and return to sports rates, and can be assessed objectively using the GNRB® arthrometer. To date, the relationship between ATT and postoperative laxity has not been established, and this study therefore investigated the relationship between laxity as measured on GNRB® and ATT at 1 year post-ACLR. Methods A retrospective analysis was conducted of 172 patients who had undergone both high resolution standardised protocol 3T MRI scan and completed GNRB laxity testing at 1 year following ACLR. The measured variables were ATT in millimetres (mm) on MRI, and maximum anterior displacement of the tibia (TD, also in mm) at 200N of force using the GNRB machine. Analysis was carried out with SPSS version 28 with descriptive statistics to calculate means, standard deviations (SD) and range. Independent samples t-test was used to compare means between two cohorts of ATT determined by the post hoc cut off, and linear regression to investigate correlation between ATT and TD. Significance was set at p<0.05. Results Mean ATT was 3.9mm (SD 2.4, range 0 - 12), and mean TD was 8.5mm (SD 2.2, range 4 – 15). To allow comparison between two cohorts of ATT, a cut off was set at 4mm which was in keeping with both median and mean values for our cohort and available literature on ATT. There was a significant difference (p<0.001) when comparing TD between the cohort with ATT less than 4mm and those greater or equal to 4mm (n=85 vs n=87, mean TD 7.9mm vs 9.1mm respectively). ATT and TD were found to be weakly correlated (r = 0.4, p<0.01). Discussion and Conclusion ATT of greater than 4mm measured on MRI scan at 1 year post-ACLR was predictive of increased laxity. Our findings support the use of this measure as a generalisable and easily accessible tool to identify patients with residual laxity post ACLR who may be at increased risk of re-rupture and poorer outcomes. This is the first study to investigate ATT as a surrogate measure of objective laxity following ACLR.

Category: Knee - Other

Does The Soaking Of Hamstrings Tendon Autograft With Vancomycin Reduce The Contamination During Harvesting and Manipulation? A Prospective Randomized Clinical Trial

Abstract ID# 23156
All Authors:
Vasilis T. Choularas MD GREECE
Giannis Giakas PhD GREECE

Tilemachos Papageorgiou MD GREECE
Jason Lekos MD GREECE
Sofia Argyropoulou MD GREECE
Kostas Kaliakatsos MD GREECE
Theodore Choulas MS GREECE

Summary:
We propose soaking the graft in vancomycin in order to prevent the patients from septic arthritis after ACL reconstruction.

Data:
Purpose: Septic arthritis after ACL reconstruction is a devastating complication. In recent years graft soaking with Vancomycin has been proposed as a solution to eliminate this complication. The purpose of the present study is to access how the vancomycin solution protects the Hamstrings autograft during harvesting and preparation. Material and Methods: The study material consisted of 40 patients operated on for ACL reconstruction with a Hamstring tendons autograft. In 20 patients the graft was soaked in vancomycin (Group A) while in 20 (Group B) the graft was not soaked in vancomycin. We used strict criteria for this study; all patients were operated from the same surgeon, with the same technique, the same way of tendon harvesting and preparation. Only patient with isolated ACL reconstruction were included in this study. In all the patients we calculated the time of graft harvesting, and the total time of surgery. In all patients we used the same antibiotic for infection prevention (1 dose prior and two doses after the operation). After fixation of the graft to the tibia with an interference screw and a staple, the rest of the tissue was send for culture. All the cultures were incubated in 37°C with 5% CO2 in agar plates for 5 days and inspected daily for microbial growth. Any bacterial growth and the number of colony forming were reported. Results: There was no statistical difference in harvesting time and total operation time between the 2 groups. On the other hand 11 patients (60%) in group B were positive while no patient in Group A was positive. This difference was statistically significant (p<0.01). All cultures were positive for the same microorganism, coagulase-negative staphylococcus (CNS). Thus soaking the graft with vancomycin protects the infection during harvesting and preparation of the graft. Conclusions: In this series Hamstring tendons autograft harvesting and preparation leads to bacterial contamination in 60% of the cases. On the other hand there is no contamination after soaking the graft with vancomycin. On the basis of this study we propose soaking the graft in vancomycin in order to prevent the patients from septic arthritis after ACL reconstruction.

Category: Knee - Other

Rates of Septic Arthritis after ACL Reconstruction: A Large Single System Analysis

Abstract ID# 23255
All Authors:
Emeno Anil Ozbek MD TURKEY
Sahil Dadoo BS UNITED STATES
Audrey Chang BS UNITED STATES
Lauren Simonian BS UNITED STATES
Romano Sebastiani BS UNITED STATES
Zachary J Herman MD UNITED STATES
Armin Runer Assoc. Prof., MD GERMANY
James J. Irgang PT, PhD, FAPTA UNITED STATES
Voller Musahl MD UNITED STATES

Summary:
In a large cohort of 6,741 patients, ACL reconstruction with quadriceps tendon yielded a significantly lower rate of septic arthritis than hamstring tendon (0.10% vs 0.72%, respectively, providing useful information for patients and surgeons when counseling on infection risk during ACL reconstruction.

Data:
Introduction: Septic arthritis is a rare but catastrophic complication after anterior cruciate ligament reconstruction (ACLR). Although the infection rates for bone-patella tendon-bone autograft (BTB), hamstring tendon autograft (HT) and allograft have been reported previously, there is limited data available for large cohorts of quadriceps tendon autograft (QT). The aim of this study is to compare rates of septic arthritis after primary and revision ACLR with QT, BTB, HT, and allograft. Methods: All ACLR cases performed by 10 high-volume sports medicine fellowship-trained ACL surgeons between January 2000 and January 2022 were retrospectively analyzed. Minimum follow-up was 90 days after ACLR, and all multi-ligament reconstructions were excluded. Demographic information,