

# LARS™ News

I am interested in the following:

- LARS™ ACL
- LARS™ Hybrid ACL
- LARS™ PCL
- LARS™ ACJ
- LARS™ Gluteal tendon
- LARS™ Posterolateral corner

- Yes I would like to attend the LARS™ Lab in **Brisbane**
- Yes I would like to attend the LARS™ Lab in **Sydney**
- Yes I would like to attend the LARS™ Lab in **Melbourne**

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Position: .....

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[www.coringroup.com](http://www.coringroup.com)

**Corin**  
Responsible Innovation

Corin is committed to providing educational support on the latest developments within the LARS™ portfolio. LARS™ News is a publication designed to allow surgeons to readily access clinical information that raises the awareness of best practice amongst the orthopaedic community. To request further information on LARS™ ligaments, please complete the form on the back page, go to the website at [www.coringroup.com](http://www.coringroup.com) or email us at [sarah.evans@coringroup.com](mailto:sarah.evans@coringroup.com).

## LARS™ advanced cadaveric labs

**20 May 2015 | 12 noon - 5pm**

*(MERF) Medical Engineering Research Facility, Brisbane*

**21 May 2015 | 12 noon - 5pm**

*Macquarie University - Cadaver labs, Sydney*

**23 May 2015 | 9am - 1pm**

*(RACS) Royal Australasian College of Surgeons, Melbourne*

- Hybrid ACL
- PCL / PLC
- MCL
- Gluteal tendon

### Meeting faculty

Mr Simon Coleridge (UK) - LARS™ Multi-ligament knee reconstruction

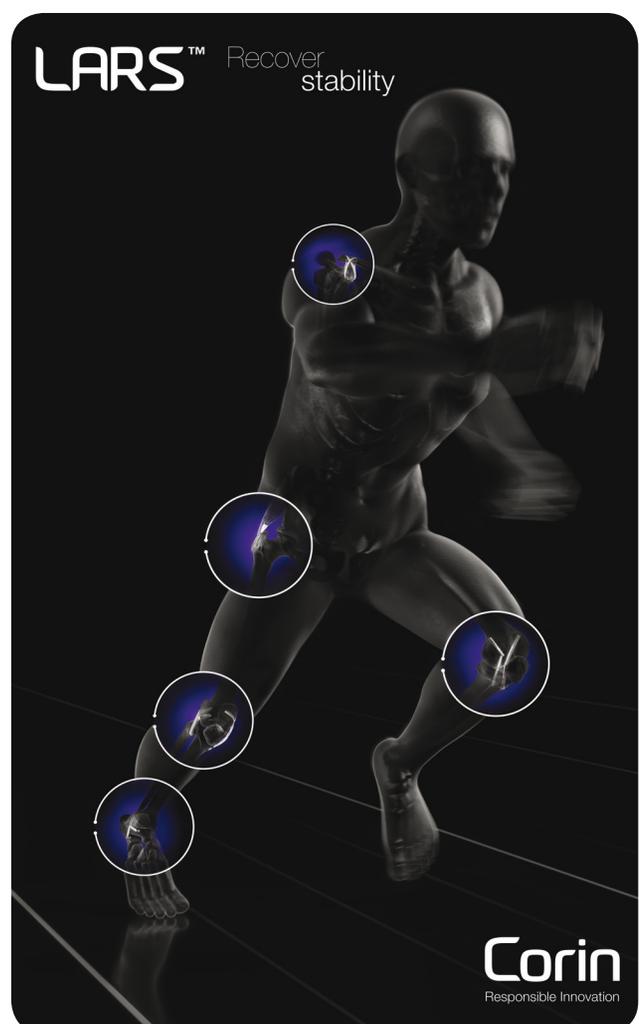
Dr Greg Janes - LARS™ Gluteal tendon

Dr Peter Annear - LARS™ Hybrid ACL reconstruction

*(Sydney meeting only)*

Mr Chris Kondogiannis - LARS™ PCL reconstruction

Spaces are limited - to reserve your place please RSVP to Sarah Evans by Friday 15th May  
E: [sarah.evans@coringroup.com](mailto:sarah.evans@coringroup.com) P: 02 9497 7421



## Synthetic Devices for Reconstructive Surgery of the Cruciate Ligaments: A Systematic Review

Lachlan M. Batty, M.B.B.S., Cameron J. Norsworthy, F.R.A.C.S., Nicholas J. Lash, F.R.A.C.S., Jason Wasiak, M.P.H., Anneka K. Richmond, B.Sc., and Julian A. Feller, F.R.A.C.S.

**Purpose:** The role of synthetic devices in the management of the cruciate ligament injured knee remains controversial. The aim of this systematic review was to assess the safety and efficacy of synthetic devices in cruciate ligament surgery.

**Methods:** A systematic review of the electronic databases Medline, Embase, and The Cochrane Library (issue 1, 2014) on January 13, 2014, was performed to identify controlled and uncontrolled trials. Trials that assessed the safety and efficacy of synthetic devices for cruciate ligament surgery were included. The main variables assessed included rates of failure, revision, and noninfective effusion and synovitis. Patient-reported outcome assessments and complications were also assessed where reported.

**Results:** From 511 records screened, we included 85 articles published between 1985 and 2013 reporting on 6 synthetic devices (ligament augmentation and reconstruction system [LARS; Surgical Implants and Devices, Arc-sur-Tille, France]); Leeds-Keio [Xiros (formerly Neoligaments), Leeds, England]; Kennedy ligament augmentation device [3M, St Paul, MN]; Dacron [Stryker, Kalamazoo, MI]; Gore-Tex [W.L. Gore and Associates, Flagstaff, AZ]; and Trevira [Telos (limited liability company), Marburg, Germany]). The heterogeneity of the included studies precluded meta-analysis. The results were analyzed by device and then type of reconstruction (anterior cruciate ligament [ACL]/posterior cruciate ligament [PCL]/combined ACL and PCL). The lowest cumulative rates of failure were seen with the LARS device (2.6% for ACL and 1% for PCL surgery). The highest failure rate was seen in the Dacron ACL group (cumulative rate, 33.6%). Rates of noninfective synovitis and effusion ranged from 0.2% in the LARS ACL group to 27.6% in the Gore-Tex ACL group. Revision rates ranged from 2.6% (LARS) to 11.8% (Trevira-Hochfest; Telos). Recent designs, specifically the LARS, showed good improvement in the outcome scores. The mean preoperative and postoperative Lysholm knee scores were 54 and 88, respectively; the mean preoperative and postoperative Tegner activity scale scores were 3.3 and 6, respectively.

**Conclusions:** Preliminary results for newer-generation devices, specifically the LARS, show lower reported rates of failure, revision, and sterile effusion/synovitis when compared with older devices. Level of Evidence: Level IV, systematic review of Level II through IV studies.

## Gluteal tendon repair augmented with a synthetic ligament

Bucher TA, Darcy P, Ebert JR, Smith A, Janes G.

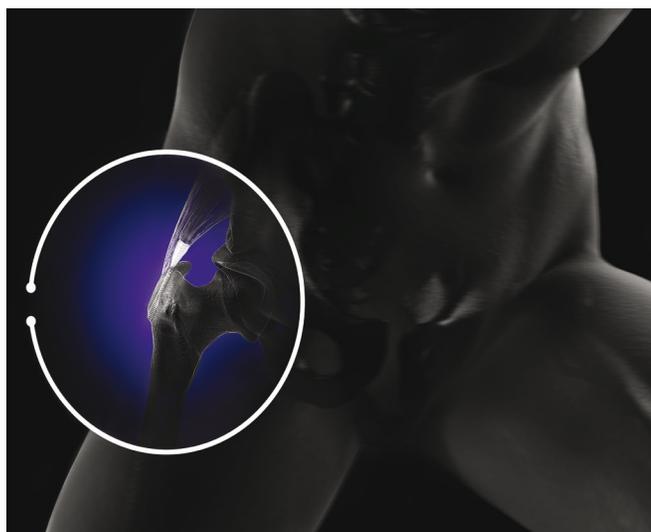
*Surgical technique and a case series October 2013.*

We describe an augmented surgical repair technique for gluteus minimus and medius tears, along with a supportive case series. A consecutive series of 22 patients presenting with clinical and radiological findings consistent with hip abductor tears, who had undergone failed prior conservative treatments, were prospectively recruited. Patients underwent open bursectomy, Y-iliotibial release, debridement of the diseased tendon, decortication of the trochanteric foot-plate and reattachment augmented with a LARS™ ligament through a trans-osseous tunnel, together with suture anchors.

All patients were assessed pre-and postoperatively to 12 months with the Oxford Hip Score (OHS), the Short-Form Health Survey (SF-36) and a Visual Analogue Pain Scale (VAS), while a satisfaction scale was employed at 12 months.

A statistically significant improvement ( $p < 0.05$ ) was observed for all patient reported outcome measures, while all patients were at least 'satisfied' with the procedure at 12 months. One patient reported some lateral hip discomfort at 10 months, and removal of the LARS™ interference screw provided immediate relief. One patient had a urological catheter-related complication.

With no other complications and no clinical failures of the repair, we believe the technique to be safe and reliable, whilst reducing the incidence of re-tears as reported in the existing literature.



**The influence of hamstring autograft size on patient-reported outcomes and risk of revision after anterior cruciate ligament reconstruction: a Multicenter Orthopaedic Outcomes Network (MOON) Cohort Study**

Mariscalco MW, Flanigan DC, Mitchell J, Pedroza AD, Jones MH, Andrich JT, Parker RD, Kaeding CC, Magnussen RA.

*Arthroscopy.* 2013 Dec:1948-53.

**Methods:** A retrospective chart review of prospectively collected cohort data was performed, and 263 of 320 consecutive patients (82.2%) undergoing primary ACL reconstruction with hamstring autograft were evaluated. We recorded graft size; femoral tunnel drilling technique; patient age, sex, and body mass index at the time of ACL reconstruction; Knee Injury and Osteoarthritis Outcome Score (KOOS) and International Knee Documentation Committee score preoperatively and at 2 years postoperatively; and whether each patient underwent revision ACL reconstruction during the 2-year follow-up period. Revision was used as a marker for graft failure. The relation between graft size and risk of revision was determined by dichotomizing graft size at 8 mm and stratifying by age.

**Results:** After we controlled for age, sex, operative side, surgeon, body mass index, graft choice, and femoral tunnel drilling technique, a 1-mm increase in graft size was noted to correlate with a 3.3-point increase in the KOOS pain subscale ( $P = .003$ ), a 2.0-point increase in the KOOS activities of daily living subscale ( $P = .034$ ), a 5.2-point increase in the KOOS sport/recreation function subscale ( $P = .004$ ), and a 3.4-point increase in the subjective IKDC score ( $P = .026$ ). Revision was required in 0 of 64 patients (0.0%) with grafts greater than 8 mm in diameter and 14 of 199 patients (7.0%) with grafts 8 mm in diameter or smaller ( $P = .037$ ). Among patients aged 18 years or younger, revision was required in 0 of 14 patients (0.0%) with grafts greater than 8 mm in diameter and 13 of 71 patients (18.3%) with grafts 8 mm in diameter or smaller.

**Conclusion:** Smaller hamstring autograft size is a predictor of poorer KOOS sport/recreation function 2 years after primary ACL reconstruction. A larger sample size is required to confirm the relation between graft size and risk of revision ACL reconstruction.

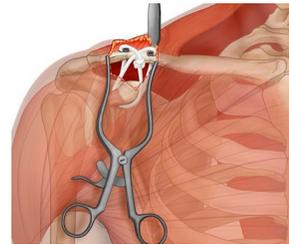


LARS™ 'hybrid' graft reinforcer

**Acromioclavicular joint reconstruction with the LARS ligament in professional versus non-professional athletes**

Giulio Maria Marcheggiani Muccioli, Christopher Manning, Philip Wright, Alberto Grassi, Stefano Zaffagnini, Lennard Funk

*European Society of Sports Traumatology, Knee Surgery, Arthroscopy,* February 2014.



**Purpose:** To compare outcomes of acromioclavicular (AC) joint reconstruction with the LARS ligament in professional and non-professional athletes at 2-year minimum follow-up.

**Methods:** Forty-three patients (men; mean age 30, range 19–54 years) with Rockwood type III to V chronic AC joint dislocations underwent AC joint reconstruction with a LARS ligament and standardized rehabilitation. Patients were divided into two groups: professionals (22) and non-professionals (21). Clinical and radiological evaluations were performed preoperatively, at 3- and 24-month follow-up.

**Results:** All clinical (Oxford and Constant) scores and patient satisfaction improved significantly from preoperative to follow-up intervals ( $p < 0.00001$ ). However, professionals showed nonsignificant improvements from 3- to 24-month follow-up in Constant. Although groups differed preoperatively in Constant ( $p = 0.037$ ), they were not different in preoperative-to-postoperative differences in clinical scores, postoperative final satisfaction and median time to return to unrestricted activity [4 (interquartile range 3–5) months to return to full sport in professionals]. Follow-up radiographs revealed an AC joint ratio (clavicle inferior-to-superior translation as ratio of AC joint height) of 0.09 and 0.16 in 8/22 professionals, 0.19 and 0.31 in 9/21 non-professionals, 0.14 and 0.24 in 17/43 overall patients at 3- and 24-month follow-up, respectively. Slight loss of reduction ( $0.25 < AC \text{ joint ratio} < 0.50$ ): 21 %. There were no significant clinical–radiographic correlations. Complication: one coracoid fracture at follow-up and one wound infection.

**Conclusion:** AC joint reconstruction with LARS ligament did not reveal differences in clinical outcomes between groups, with 2 % of failures (re-dislocations) at 2-year minimum follow-up. Superior radiological outcomes in professionals were not correlated to clinical results. Level of evidence: Therapeutic study–prospective comparative study, Level II.