

# **Isolated ACL Reconstruction Versus Combined ACL & ALL Reconstruction: A Matched Case Series with Mean Follow-Up of Nine Years**

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# Disclosures

- Editorial Board Arthroscopy Journal
- AANA Committee membership

ACL + ALL confers significant reduction in graft rupture rates

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## Winner of AANA 2017 Richard J O'Connor Award

### Anterolateral Ligament Reconstruction Is Associated With Significantly Reduced ACL Graft Rupture Rates at a Minimum Follow-up of 2 Years



June 2017

### A Prospective Comparative Study of 502 Patients From the SANTI Study Group

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*Investigation performed at the Centre Orthopédique Santy, Lyon, France*



# Summary of comparative studies

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- Significant advantages demonstrated in specific populations
  - Young patients, pivoting sports, Sonnery-Cottet et al
  - Chronic ACL Injuries, Helito et al
  - Hyperlaxity, Helito et al
  - Revision ACLR, Lee et al
  - Meniscal repair, Sonnery-Cottet et al
  - *Elite athletes, Sonnery Cottet et al (under journal review)*

# Aim

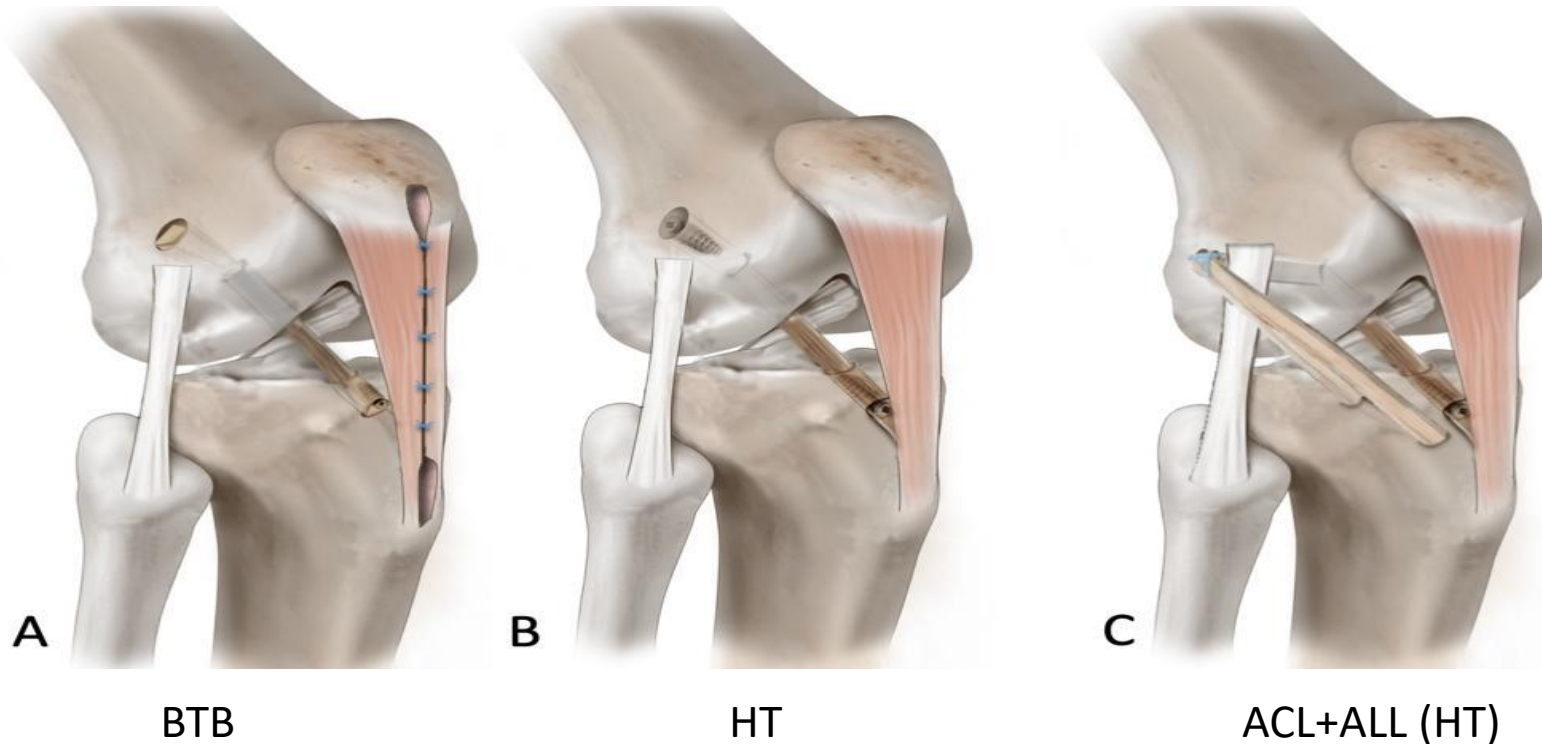
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Aim: To compare the long-term clinical outcomes of isolated ACLR versus combined ACLR+ALLR

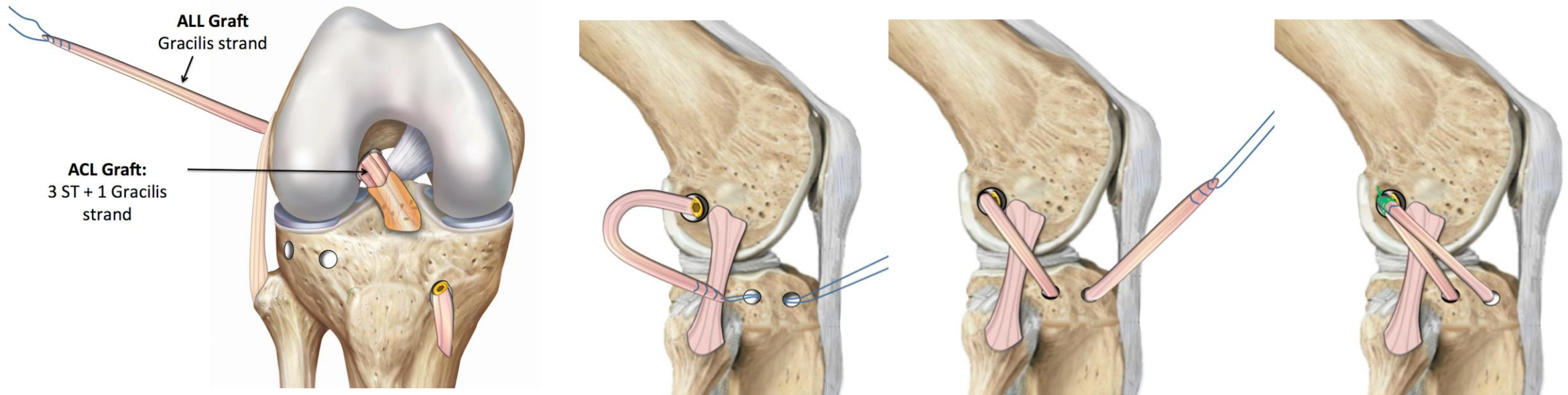
Hypothesis: Patients who underwent combined procedures would experience significantly lower ACL graft rupture rates at long-term follow-up than matched counterparts undergoing isolated ACLR

# Methods

Patients undergoing ACLR by BSC between Jan 2011-March 2012 considered for inclusion. 1:1 Propensity matching of ACLR+ALLR cases with isolated ACLR



# Surgical Technique for ACLR+ALLR



Saithna A, Thauinat M, Delaloye JR, Ouanezar H, Fayard JM, Sonnery-Cottet, B. Combined ACL and Anterolateral Ligament Reconstruction  
JBJS Essential Surgical Techniques. 8(1):e2, January-March 2018.

# Follow-up

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No differences in post-op rehab between groups

Face-to-face follow-up to 24 months post-op and then final follow up via medical notes review & telemedicine unless any history of further injury or symptoms suggestive of graft rupture

Lysholm, Tegner, IKDC, KOOS recorded at final follow-up



# Propensity Matching

90 ACLR+ALLR and 180 isolated ACLR available for matching in 1:1 ratio

	Standardized differences
Meniscal Status	0,0000
BMI	0,2386
Time from injury-surgery	-0,0674
Age at Surgery	-0,2236
Side to side Laxity	0,2495
Pivoting Sport	0,0000
Contact Sport	0,0000

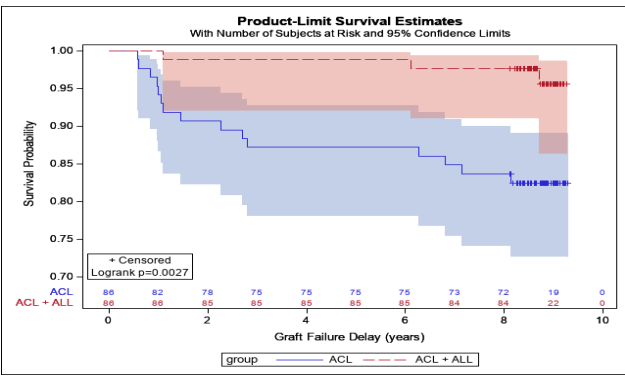
# Follow-up

- 86 matched pairs
- Mean follow-up of  $104.33 \pm 3.84$  months
- No differences in knee stability (at 2 years) or PROMS at final f/up

	Combined ACL+ALL N= 82	Isolated ACL N = 82	p
Lysholm Mean (SD)	94.02 (6.82)	93.16 (9.83)	.480
IKDC subjective Mean (SD)	89.89 (8.34)	89.35 (11.24)	.702
Tegner Mean (SD)	6.1 (1.55)	6.4 (1.81)	.298

# Prospective Matched Study

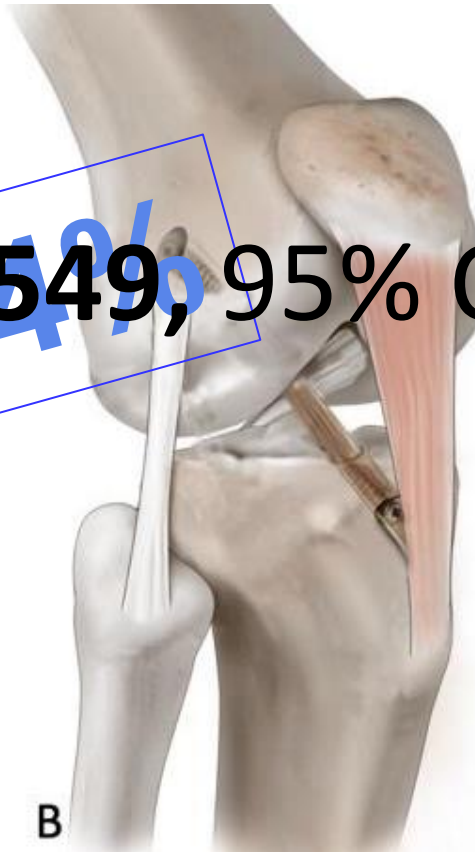
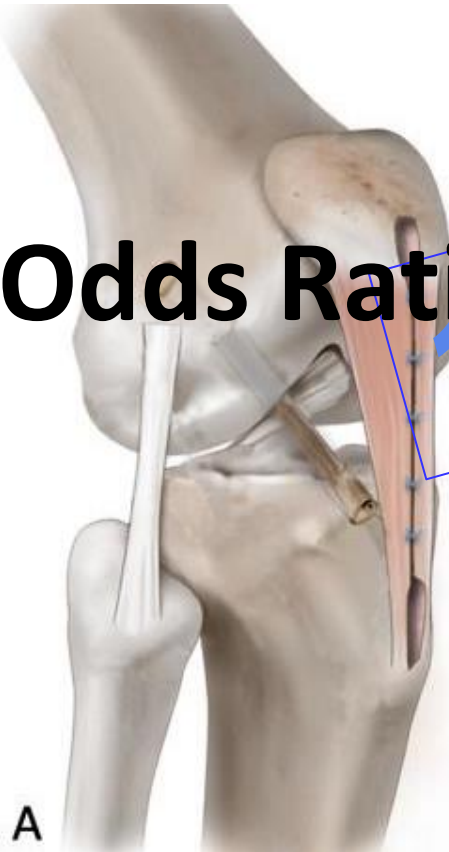
## Graft Rupture Rate



Isolated ACLR

ACLR + ALL

(Odds Ratio 5.549, 95% CI, 1.431-21.511, P= .0132)



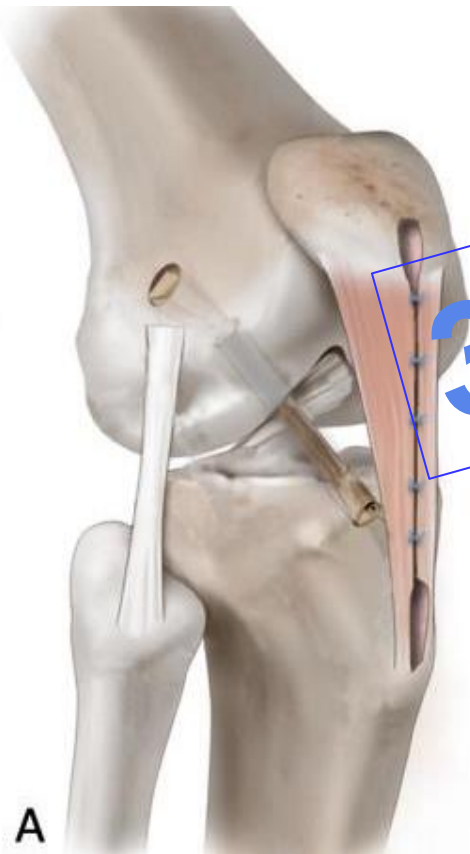
# Prospective Matched Study



## Reoperation Rate

Isolated ACLR

ACLR + ALL



32,6%



15,3%



A

B

C

		ACL+ALLR n = 86	Isolated ACLR n = 86	P value	
<b>Overall re-operation rate, n (%)</b>		14 (15.3%)	28 (32.6%)	P<0.05 <sup>‡</sup>	
<b>Revision ACLR, n (%)</b>		3 (3,5%)	15 (17.4%)	P<0.05 <sup>‡</sup>	
<b>Non-graft rupture related re-operations, n (%)</b>		11 (12.8%)	13 (15%)	P=0.826	
	Secondary meniscectomy rate n (%)	Medial	8 (9.3 %)	8 (9.3%)	
		Lateral	1 (1.1%)	3 (3.5%)	
	Cyclops lesion, n (%)		2 (2.3%)	1 (1.1%)	
	Arthroscopic Lavage (sepsis)		0	1 (1.1%)	
	Hardware removal		0	0	

# Complications

	ACL+ALLR n = 86	Isolated ACL n = 86	p value
Superficial wound infection	1 (1.2%)	1 (1.2%)	
Flexion contracture (with recovery of full motion after extended physical therapy)	4 (4.6%)	2 (2.3%)	
Anterior knee pain	6 (7%)	5 (5.8%)	
Symptomatic chondral lesion	2 (2.3%)	0	
Symptomatic tibial tunnel cyst	2 (2.3%)	4 (4.6%)	
Hamstring strain	1 (1.2%)	0	
Dysesthesia	0	2 (2.3%)	
Hemarthrosis	0	1 (1.2%)	
Total	16 (18.6%)	15 (17.4%)	p=0.43 <sup>‡</sup>

# Conclusions

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Patients who undergo combined ACL+ALLR experience significantly better long-term ACL graft survivorship, lower overall rates of re-operation, and no increase in complications when compared to those who undergo isolated ACLR.

Patients who undergo isolated ACLR have a greater than five-fold increased risk of undergoing revision surgery



Thank you