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Pre-Operative Risk Factor Analysis for Ipsilateral Reinjury Following Contemporary ACL Primary Repair at 6-Year Follow-Up

Conner-Rilk S, Mueller MM, Goodhart C, Tomanek F, Beckers V, von Rehlingen-Prinz F, O'Brien JR, DiFelice GS

HSS OCM MEDICAL UNIVERSITY OF VIENNA AGA KOMITEE Kniegelenksligamente

DIFELICE FOUNDATION FOR ORTHOPAEDICS

DISCLOSURES

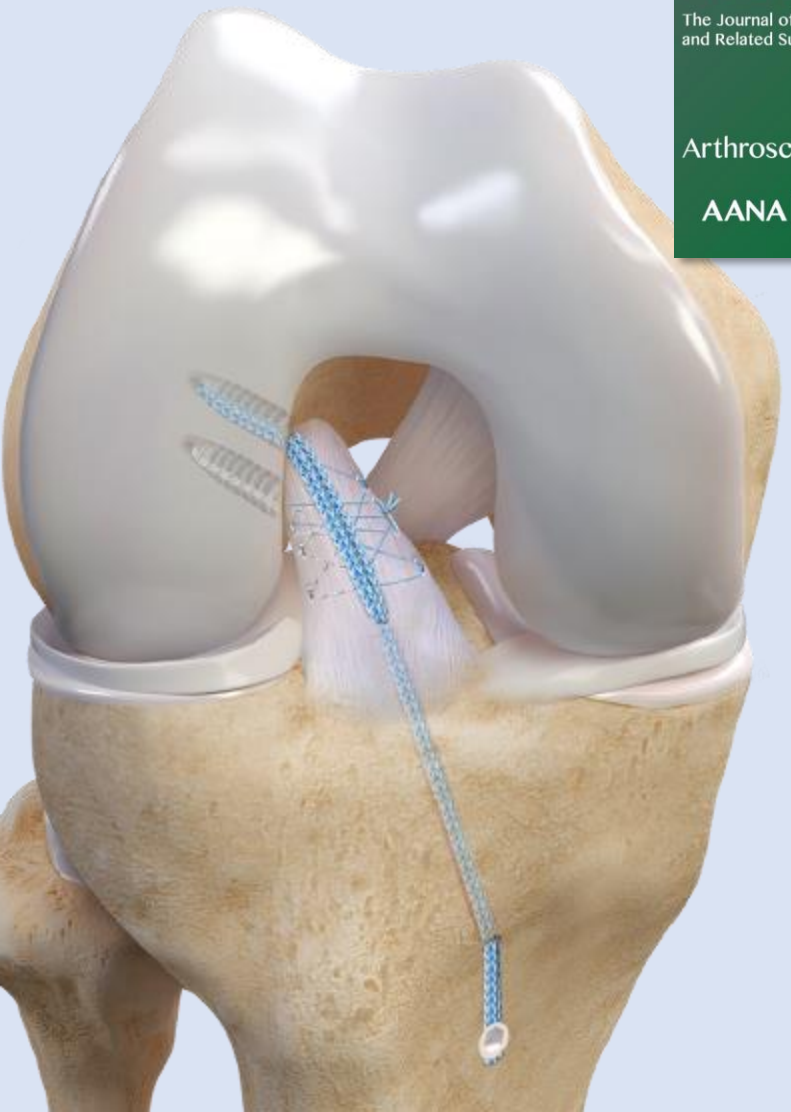
DiFelice G.S. receives royalties from Zimmer Biomet and Arthrex,

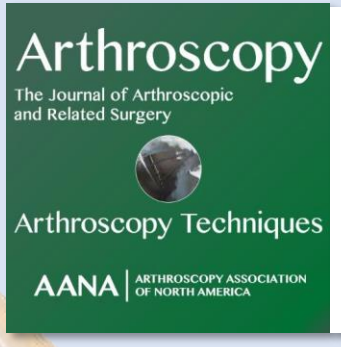
and is a paid consultant for Zimmer Biomet, Miach Orthopaedics and OSSIO Inc.

PURPOSE

To identify **preoperative risk factors** for ipsilateral **ACL reinjury following ACLPR** with a **minimum follow-up of 5-years**.

METHODS





Anatomic Arthroscopic Primary Repair of Proximal Anterior Cruciate Ligament Tears

Sebastian Rilk, M.D., Gabriel C. Goodhart, B.A., Robert O'Brien, P.A.-C., Harmen D. Vermeijden, M.D., Jelle P. van der List, M.D., Ph.D., and Gregory S. DiFelice, M.D.

Minimum 5-year FU of the first 113 selective patients treated with dual suture anchor ACL primary repair

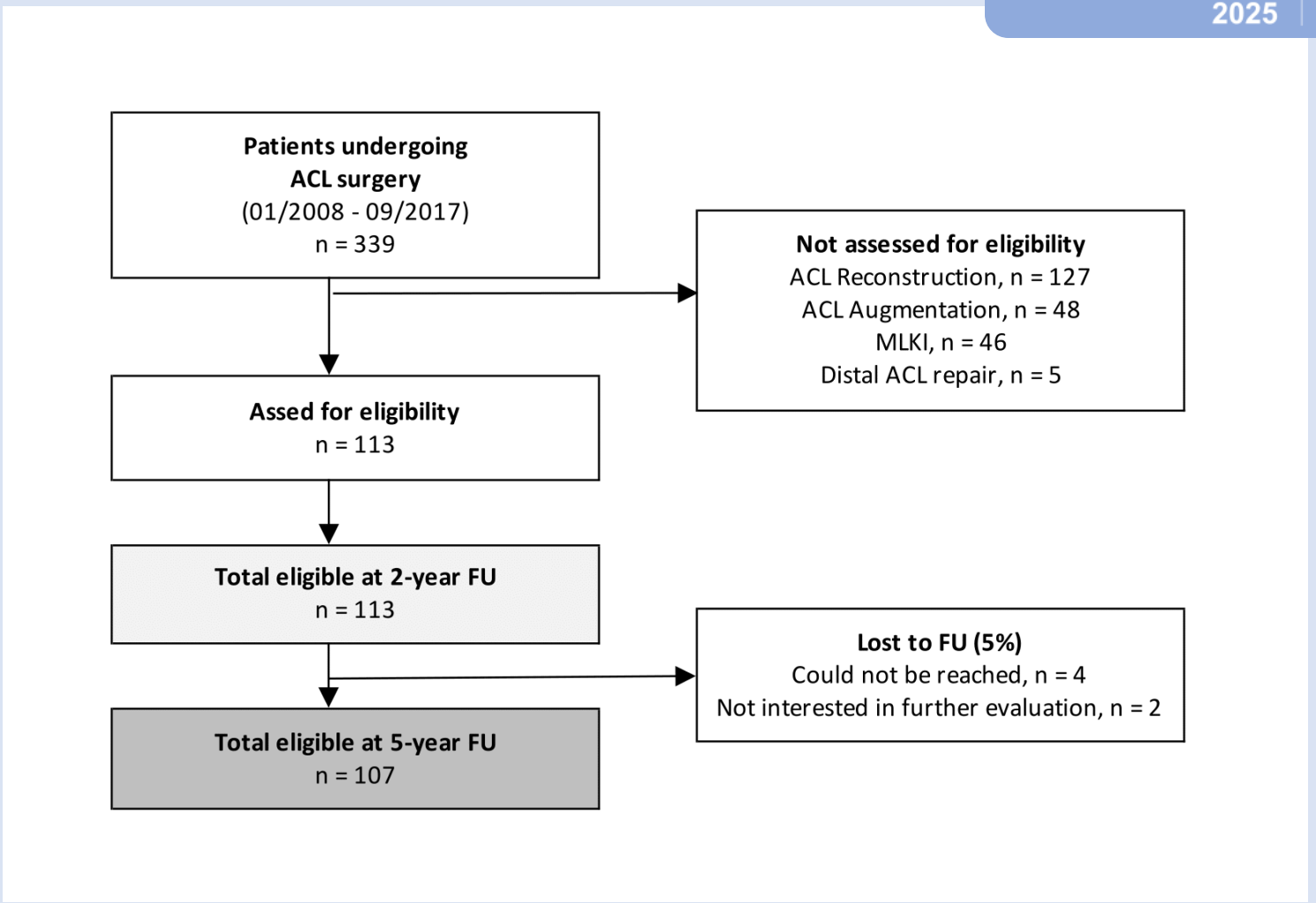
Preoperative risk factors

- Demographic: sex, age, BMI, activity level, surgery delay
- Clinical: Knee laxity, Pivot shift grade, concomitant injuries

Identification of preoperative risk factors

- Univariate and multivariate logistic regression models

RESULTS


Patients undergoing ACL surgery (01/2008 - 09/2017) n = 339
Not assessed for eligibility
ACL Reconstruction, n = 127
ACL Augmentation, n = 48
MLKI, n = 46
Distal ACL repair, n = 5
Assed for eligibility n = 113
Total eligible at 2-year FU n = 113
Lost to FU (5%)
Could not be reached, n = 4
Not interested in further evaluation, n = 2
Total eligible at 5-year FU n = 107

RESULTS

Baseline Demographic and Clinical Characteristics

	n = 107
Follow-up, y	6.0 (5.3-7.0)
Sex, male, n (%)	60 (56)
Age, y	35.5 (22.4-43.1)
BMI	24.4 (22.8-26.7)
Tegner level	7 (6-7)
Injury-surgery, mo	1.2 (0.6-2.7)
Acute surgery (<3 mo), n (%)	93 (87)
Concomitant injuries, n (%)	
PCL	0 (0)
MCL	10 (9)
LCL	0 (0)
ALL	1 (1)
Meniscus bilateral	6 (6)
Medial meniscus	16 (15)
Lateral meniscus	31 (29)
Chondral	23 (22)

Given that data is not normally distributed, data is presented as median (IQR), unless otherwise specified.

RESULTS

Unadjusted Odds Ratios Associated with Failure at minimum 5-year FU

	Odds Ratio	95% CI	P-Value
Sex, male	0.860	[0.304, 2.433]	0.777
Age, y	0.922	[0.875, 0.970]	**0.002**
BMI	0.973	[0.844, 1.122]	0.705
Tegner level	1.086	[0.748, 1.574]	0.665
Injury-surgery (per month increase)	0.969	[0.866, 1.085]	0.589
Acute surgery (<3 mo)	0.370	[0.045, 3.035]	0.355
Pivot Shift grade ≥2	1.344	[0.461, 3.922]	0.588
MCL tear	1.367	[0.264, 7.076]	0.710
Medial meniscus tear	0.313	[0.038, 2.539]	0.277
Lateral meniscus tear	1.925	[0.658, 5.629]	0.232

RESULTS

Adjusted Odds Ratios Associated with Failure at minimum 5-year FU

	Odds Ratio	95% CI	P-Value
Sex, male	2.379	[0.396, 14.288]	0.343
Age, y	0.875	[0.804, 0.953]	**0.002**
BMI	1.004	[0.792, 1.273]	0.975
Tegner level	0.649	[0.390, 1.079]	0.095
Injury-surgery (per month increase)	1.005	[0.877, 1.151]	0.946
Acute surgery (<3 mo)	0.429	[0.033, 5.575]	0.518
Pivot Shift grade ≥2	1.814	[0.406, 8.102]	0.435
MCL tear	0.632	[0.046, 8.701]	0.731
Medial meniscus tear	0.161	[0.013, 2.033]	0.158
Lateral meniscus tear	2.562	[0.577, 11.369]	0.216

CONCLUSION

Age is identified as a significant **risk factor** for ACLPR **reinjury**, with a **12.5% decreased risk of failure for each additional year of age**, indicating that **younger** patients experience **higher rates of reinjury**.

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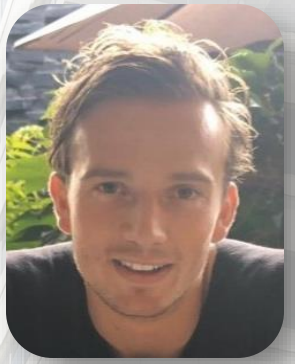









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