

# **#123: SOCIOECONOMIC PREDICTORS OF TREATMENT AND POSTOPERATIVE OUTCOMES AMONG MEDIAL PATELLOFEMORAL LIGAMENT RECONSTRUCTION PATIENTS**

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# Disclosures

- Eric J. Strauss: American Academy of Orthopaedic Surgeons, American Orthopaedic Association, Arthrex, Inc, Arthroscopy Association of North America, Better PT, Cartiheal, Cartilage, Fidia, Flexion Therapeutics, Jaypee Publishing, Joint Restoration Foundation, Organogenesis, Smith & Nephew, Springer, Subchondral Solutions, Vericel, and Bulletin of the Hospital for Joint Diseases
- Kirk A. Campbell: American Academy of Orthopaedic Surgeons, Arthroscopy Association of North America, and Stryker
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# Background

- Lateral patellar instability is a relatively common source of knee-related disability among young athletes.
- Surgical treatment with medial patellofemoral ligament reconstruction (MPFLR) is effective, but socioeconomic disparities exist that affect access to surgical care in this population.
- It is unclear which socioeconomic factors are the strongest predictors of time to MPFLR and postoperative outcomes.



# Objective

- The purpose of this study was to identify socioeconomic predictors of time to initial evaluation, time to surgery, and postoperative outcomes among lateral patellar instability patients undergoing MPFLR.

# Methods

- Multi-surgeon, single-center retrospective case series
- Inclusion criteria: (1) diagnosis of lateral patellar instability, (2) MPFLR surgery with or without tibial tubercle osteotomy (TTO), (3) skeletal maturity at the time of surgery, and (4) minimum follow-up of 12 months
- Concomitant procedures included tibial tubercle osteotomy (TTO), arthroscopic chondroplasty, arthroscopic partial meniscectomy
- Subjects completed a survey that assessed socioeconomic factors and clinical outcomes
- Neighborhood socioeconomic status quantified using Area Deprivation Index (ADI) and Social Vulnerability Index (SVI)

## Methods (continued)

- Socioeconomic variables measured: first spoken language, self-identified race, Hispanic or Latino ethnicity, marital status, household size, annual household income, home ownership, vehicle ownership, vacation time, highest level of education completed, intent to pursue further education, employment status, occupation type, access to primary care
- Outcomes measured: recurrent patellar instability, Visual Analog Scale (VAS) knee pain, satisfaction with procedure, Kujala score, MPFL-Return to Sport after Injury (MPFL-RSI)
- Predictors of postoperative outcomes were identified using multivariable linear and logistic regression with stepwise selection

**Table 1. Demographics and clinical characteristics (n = 70).**

Age (years)	24.8 ± 9.2
Follow-up time (months)	45.7 ± 25.3
Sex	<b>Male</b> 19 (27.1%)   <b>Female</b> 51 (72.9%)
Traumatic injury	36 (51.4%)
Subluxations occurring at least once a week	22 (31.4%)
At least one dislocation episode prior to surgery	24 (34.3%)
TT-TG distance on MRI (mm)	17.2 ± 3.9
TT-TG distance >15 mm	45 (64.3%)
Insall-Salvati ratio on MRI	1.2 ± 0.2
Patellar height	<b>Normal height</b> 30 (42.9%)   <b>Patella alta</b> 40 (57.1%)
Dejour classification of trochlear dysplasia	<b>Type A</b> 24 (34.3%)   <b>Type B</b> 19 (27.1%) <b>Type C</b> 13 (18.6%)   <b>Type D</b> 14 (20.0%)

**Table 2. Treatment course (n = 70).**

Time from symptom onset to initial evaluation (months)	6.4 ± 27.5
Time from symptom onset to surgery (months)	73.6 ± 104.7
Procedure laterality	<b>Left 32 (45.7%)   Right 38 (54.3%)</b>
Graft type	<b>Gracilis 65 (92.9%)   Semitendinosus 5 (7.1%)</b>
Had concomitant procedure	45 (64.3%)
Tibial tubercle osteotomy	36 (51.4%)
Meniscectomy	2 (2.9%)
Chondroplasty	30 (42.9%)
Loose body removal	10 (14.3%)



**Table 3. Clinical and patient-reported outcomes (n = 70).**

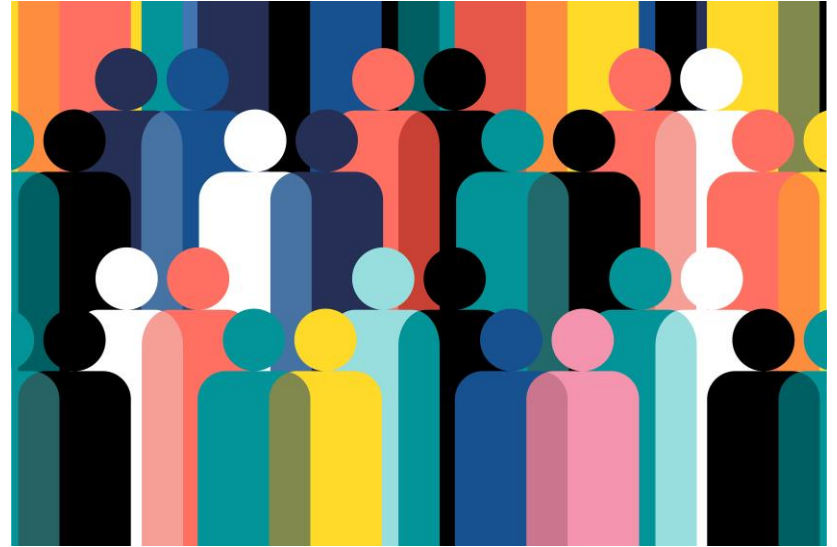
Reoperations	7 (10.0%)
Participated in sports before surgery	28 (40.0%)
Returned to sports	13 (46.4%)
Employed before surgery	38 (56.7%)
Returned to work	35 (92.1%)
Postoperative recurrent instability	10 (14.7%)
VAS at rest	1.2 ± 1.8
VAS during sports	2.3 ± 2.5
Satisfaction	84.2% ± 14.7%
Kujala score	83.9 ± 14.7
MPFL-RSI score	60.1 ± 24.6
MPFL-RSI score > 56	39 (55.7%)

# Results

- Mean time to evaluation was 6.4 months (range 0-221).
- Mean time to surgery was 73.6 months (range 0-444).
- Home ownership was predictive of reduced time to surgery ( $\beta$ : -56.5 [-104.7, -8.3],  $p = 0.02$ ).
- Non-white race was predictive of increased odds of undergoing a concomitant procedure (OR: 12.4 [1.8, 83.4],  $p = 0.01$ ).
- Full-time employment was predictive of higher satisfaction ( $\beta$ : 14.1 [4.3 to 23.9],  $p = 0.006$ ) and higher Kujala score ( $\beta$ : 8.7 [0.9, 16.5],  $p = 0.03$ ).
- There were no significant predictors of revision, return to work, return to sports, VAS for sports, or achieving a passing MPFL-RSI score.

# Conclusions

- Certain markers of higher socioeconomic status including home ownership and full-time employment were predictive of higher satisfaction and knee function following MPFLR for patellar instability
- Non-white race was associated with higher odds of undergoing concomitant procedures.



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