



Impact of Socioeconomic Status on Concomitant Injuries and Access to Care following ACL Injury

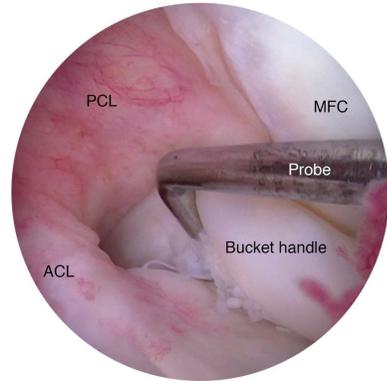
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Introduction

- Delay to ACL reconstruction has been associated with additional knee pathology and worse long term prognosis¹⁻³



- Time to surgery varies greatly in these diverse patient populations, regardless of healthcare system^{1,3-6}
- Cost, insurance status, household income and age at injury have been identified as barriers to access to care^{5,7}
- There is a paucity of literature examining the correlation between lower socioeconomic status, delay in treatment and concomitant pathologies following ACL injury
- We sought to identify socioeconomic factors that may influence a delay in seeking treatment or lead to concomitant pathology at the time of surgery
- We hypothesized that lower income, lower education, a primary language other than English and government insurance would be associated with delayed utilization of orthopaedic care and a higher rate of concomitant injuries at the time of reconstruction

Methods

- Patients who underwent ACL from November 2015 and August 2018 were identified
- Income, education, primary language and re-injuries prior to surgery were determined
- Insurance, injury date, weeks from injury to orthopaedic surgery visit and surgery date were recorded
- Multiple linear regression was used to determine independent predictors
- A least squares model was used for continuous variables and a nominal regression model was used for nominal variables
- Groups were compared by chi-square or Fisher's exact test with $P < .05$ significant

Results

- 241 patients with an average age of 26.5 years were identified with available insurance information

Insurance

- Patients with commercial insurance visited an orthopaedic surgeon 39.4 weeks earlier ($P = .012$) and underwent surgery 5 weeks sooner ($P = .016$) as compared to patients with government insurance

Language

- Speaking English as a first language predicted an earlier visit by 55.86 weeks ($P = .027$)
- Speaking English as a first language predicted earlier surgery by 21 weeks ($P = .019$)

- Additionally, English as a second language (ESL) speakers had an odds ratio of 4.62 for having a bucket handle medial meniscus tear at surgery ($P = .01$; $CI = 1.67-21.3$)

Education

- With respect to education, having a college degree predicted earlier initial visit by 36 weeks ($P = .023$) and earlier surgery by 32 weeks ($P = .036$)

Income

- Having a household income less than \$100,000 independently predicted 0.25 more episodes of instability ($P = .039$), and an odds ratio of 7.37 ($CI = 1.20-53.39$) for having a bucket handle medial meniscus tears at surgery

Time

- Time from injury to seeing an orthopaedic surgeon longer than 13 weeks significantly increased the chance of meniscus tear ($P = .007$) and specifically non-bucket tears ($P = .022$)
- Times longer than 30 weeks significantly increased the chance of a bucket handle tear at surgery compared to no tear and non-bucket tear (both $P < .001$)

	Injury to First Clinic Visit	Number of Repeat Injuries	Bucket Handle Tear Likelihood
Insurance Status	X		
Language Spoken	X	X	X
Maximum Education Level	X		
Household Income		X	X

Significant factors indicated by an X

Discussion

- Patients with government insurance and ESL speakers experienced later access to care and later surgery
- ESL speakers also experienced higher rates of re-injury, instability, and bucket handle medial meniscus tears
- Patients without a college degree also experienced later access to care
- Patients with a household income less than \$100,000/year experienced higher rates of instability and bucket handle medial meniscus tears
- Delayed access to orthopaedic care longer than 13 weeks was associated with higher rates of meniscus tears, and **after 30 weeks bucket handle meniscus tears were significantly increased**
- These data may inform the orthopaedic and broader medical communities of the impact of lower socioeconomic status on patients' access to care and higher rates of concomitant injuries

References

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