# Understanding Health Insurance and the Delay in Care for Partial Meniscectomies: A Comparison Between Public and Private Coverage

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INTRODUCTION:

Meniscus injuries are one of the most common orthopedic pathologies. Arthroscopic partial meniscectomy can be performed if the injury has failed nonoperative management or is irreparable. Socioeconomic disparities within health insurance coverage have been known to hinder access to surgical intervention. Insurance type significantly influences the timing and quality of care, potentially impacting how efficiently their recovery is managed. The purpose of this study is to examine the impact of insurance status and socioeconomic demographics on the timeliness of care for meniscus tears in a high-volume urban safety-net hospital.

METHODS:

A retrospective review was conducted of patients aged 18 or older who underwent partial meniscectomy at a single center between January 2018 and December 2022. Patients were categorized based on insurance status. Demographic data, clinical timeliness, and non-operative treatments were analyzed. Insurance groups were compared between key time intervals, including injury-to-diagnosis, injury-to-decision, diagnosis-to-decision, decision-to-procedure, and total injury-to-surgery duration. Chi-square and multivariate regression analyses assessed the relationship between insurance type and delays in care.

RESULTS:

Publicly insured patients composed 67% of the 288 patients. Public insurance patients were predominantly Black (48%) and Hispanic (32%) compared to private insurance patients, where Black and Hispanic patients constituted 33% and 10%, respectively. Public insurance patients experienced significantly longer injury-to-diagnosis intervals, averaging 115 days more than private insurance patients. Delays persisted at every stage of care, with public insurance patients demonstrating a statical significantly longer injury-to-decision (292 ± 46 days v. 177 ± 23 days, p = 0.03). Despite these differences, no significant differences were found in pre-operative management, including physical therapy and bracing. Non-white patients experienced significantly longer average injury-to-diagnosis date (126 more days, p = 0.01), a longer injury-to-decision date (133 more days, p = 0.02), and a longer total course (128 more days, p = 0.02). Female patients had a longer diagnosis-to-decision date (60 ± 14 days v. 11 ± 31 days, p=0.05), but a shorter decision-to-procedure date (45 ± 5 days v. 72 ± 11 days, p = 0.01).

DISCUSSION AND CONCLUSION:

This study demonstrates significant disparities in the timeliness of surgical care for meniscus tears, with public insurance status and minority race, mainly Black and Hispanic, serving as key predictors of care delays. Public insurance patients faced prolonged intervals across all stages of care, including a 115-day delay from injury to diagnosis. Structural inefficiencies, such as lower reimbursement rates and administrative complexity of public insurance programs, combined with patient-specific barriers like financial instability and mistrust, contribute to these delays. These findings underscore the need for systemic reforms to improve equity in healthcare access.

**Table 1: Patient Demographics by Cohort**

| | Private (n = 122) | Public (n = 166) | sig |
|---|---|---|---|
| **Age** | 51 +/- 12 | 52 +/- 11 | p = 0.24 |
| **Sex** | | | |
| Female | 57 (47%) | 91 (55%) | p = 0.174 |
| Male | 65 (53%) | 75 (45%) | |
| **Race** | | | |
| African American/Black | 40 (32.7%) | 79 (48%) | p < 0.001 |
| Asian/Pacific Islander | 1 (0.82%) | 1 (1%) | |
| Caucasian/White | 60 (49.18%) | 24 (14%) | |
| Hispanic/Other | 12 (9.84%) | 54 (32%) | |
| Hispanic/Unknown | 0 (0%) | 1 (1%) | |
| Hispanic/White | 1 (0.82%) | 0 (0.0%) | |
| Other Race | 4 (3.28%) | 7 (4%) | |
| Unknown | 4 (3.28%) | 0 (0%) | |
| **Ethnicity** | | | |
| Hispanic | 14 (11.48%) | 58 (35%) | p < 0.001 |
| Non-Hispanic | 102 (83.61%) | 107 (63%) | |
| Unknown | 6 (4.92%) | 4 (2%) | |
| **Employment Status** | | | |
| Employed | 60 (49.18%) | 51 (31%) | p < 0.001 |
| Unemployed | 18 (14.75%) | 71 (43%) | |
| Unknown | 40 (32.79%) | 34 (20%) | |
| Retired | 0 (0.0%) | 4 (2.4%) | |
| Disability | 4 (3.28%) | 6 (4%) | |

**Table 2: Operative Intervals by Insurance Cohort**

| | Private (n = 122) | Public (n = 166) | Sig. |
|---|---|---|---|
| Operative Intervals (days) | | | |
| **Injury Date to Diagnosis Date** | 177 +/- 23 | 292 +/- 46 | p = 0.03 |
| **Injury Date to Decision Date** | 252 +/- 35 | 315 +/- 39 | p = 0.47 |
| **Diagnosis Date to Decision Date** | 68 +/- 20 | 43 +/- 24 | p = 0.29 |
| **Decision Date to Procedure Date** | 53 +/- 9 | 61.5 +/- 8 | p = 0.50 |
| **Total Course: Injury Date to Procedure Date** | 297 +/- 36 | 376 +/- 36 | p = 0.35 |

**Table 3: Operative Intervals by Ethnicity**

| | White (n = 111) | Non-White (n = 167) | Sig. |
|---|---|---|---|
| Operative Intervals (days) | | | |
| **Injury Date to Diagnosis Date** | 146 +/- 24 | 272 +/- 49 | p = 0.01 |
| **Injury Date to Decision Date** | 204 +/- 31 | 337 +/- 52 | p = 0.02 |
| **Diagnosis Date to Decision Date** | 54 +/- 19 | 39 +/- 21 | p = 0.89 |
| **Decision Date to Procedure Date** | 54 +/- 12 | 47 +/- 7 | p = 0.27 |
| **Total Course: Injury Date to Procedure Date** | 255 +/- 33 | 383 +/- 52 | p = 0.02 |

**Table 4: Operative Intervals by Sex**

| | Men (n = 140) | Women (n = 148) | Sig. |
|---|---|---|---|
| Operative Intervals (days) | | | |
| **Injury Date to Diagnosis Date** | 260 +/- 48 | 217 +/- 27 | p = 0.06 |
| **Injury Date to Decision Date** | 286 +/- 43 | 286 +/- 31 | p = 0.41 |
| **Diagnosis Date to Decision Date** | 11 +/- 31 | 60 +/- 14 | p = 0.05 |
| **Decision Date to Procedure Date** | 72 +/- 11 | 45 +/- 5 | p = 0.01 |
| **Total Course: Injury Date to Procedure Date** | 338 +/- 31 | 334 +/- 32 | p = 0.94 |

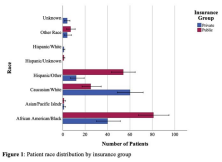


**Figure 1:** Patient race distribution by insurance group