

# Time required to achieve clinically significant outcomes after arthroscopic superior capsular reconstruction

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## Abstract

**Purpose** To investigate the time-dependent nature of clinically significant outcomes, including the minimal clinically important difference (MCID), substantial clinical benefit, and Patient Acceptable Symptomatic State (PASS) after arthroscopic superior capsular reconstruction, and the factors contributing to the achievement of early clinically significant outcomes.

## Methods

Patients who underwent ASCR between March 2015 and September 2020 with complete preoperative and postoperative 6-month, 1-year, and 2-year patient-reported outcome measures (PROMs) were retrospectively analysed. Threshold values for MCID, substantial clinical benefit, and PASS were obtained from the previous literature for the PROMs. The time required to achieve clinically significant outcomes was calculated using Kaplan–Meier analysis. Multivariate Cox regression was performed to evaluate the variables predictive of an earlier or delayed achievement of MCID.

## Results

Fifty-nine patients with a mean age of 64.5 ± 8.7 years old were included. The time of mean achievement of MCID, substantial clinical benefit, and PASS for VAS was 11.2 ± 0.9, 16.3 ± 1.1, and 16.6 ± 0.9 months, respectively. The time of mean achievement of MCID, substantial clinical benefit, and PASS for ASES was 13.2 ± 1.0, 16.8 ± 1.0, and 18.3 ± 0.9 months, respectively. The time of mean achievement of MCID, substantial clinical benefit, and PASS for the Constant score was 11.6 ± 0.9, 15.1 ± 1.0, and 14.7 ± 0.9 months, respectively. The time of mean achievement of MCID, substantial clinical benefit, and PASS for SANE was 14.4 ± 1.0, 16.1 ± 1.0, and 15.5 ± 0.8 months, respectively. Patients with a higher preoperative VAS score achieved an earlier MCID for VAS (*P* = 0.014). However, patients with a higher preoperative ASES and SANE scores achieved delayed MCID for ASES and SANE (*P* = 0.026, and *P* < 0.001, respectively).

## Conclusion

Most patients achieved MCIDs around 1 year after arthroscopic superior capsular reconstruction. A higher preoperative VAS score favours faster MCID achievement, while higher preoperative ASES and SANE scores contribute to delayed MCID achievement.

## Study design

Cohort study

## Level of evidence

Level IV.

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## Data availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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## Ethics declarations

### Conflict of interest

We have no conflict of interest to disclose.

### IRB approval

Institutional Review Board (IRB) approval number: 2023-0408.

### Ethical approval

This retrospective chart review study involving human participants was in accordance with the ethical standards of the institutional and national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The Human Investigation Committee (IRB) of Asan Medical Center approved this study.

## Additional information

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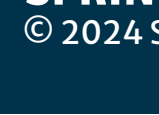
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- Minimal clinically important difference
- Substantial clinical benefit
- Patient Acceptable Symptomatic State
- Time to achieve clinical significance

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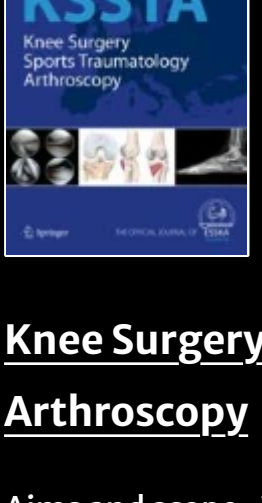
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