MOVEMENT-EVOKED PAIN AMONG OLDER ADULTS UNDERGOING TOTAL KNEE ARTHROPLASTY
A SYSTEMATIC REVIEW OF MEASUREMENT, SEVERITY, AND ASSOCIATIONS WITH RECOVERY
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BACKGROUND
• Movement-Evoked Pain (MEP) is pain with range of motion or physical task performance.
• MEP is more severe than resting pain and highly correlated with physical function decline.1
• MEP is a primary indicator for total knee arthroplasty (TKA).2

PURPOSE
To systematically appraise MEP measurement, severity, and associations with recovery among older adults undergoing TKA.

METHODS
Embase, Pubmed, and Scopus databases reviewed
Inclusion criteria: older adults (mean age 55+) undergoing TKA; MEP as outcome measure
Qualitative assessment (risk of bias) using Modified Downs and Black Instrument 3,4

RESULTS
WHAT IS THE STUDY QUALITY?
Research Design

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<th>Study Type</th>
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<td>Retrospective</td>
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<tr>
<td>Prospective Cohort</td>
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<td>Clinical Trial</td>
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Risk of Bias

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<tr>
<td>Moderate</td>
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<td>Low</td>
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HOW IS MEP MEASURED?

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HOW LONG IS MEP ASSESSED AFTER SURGERY?

- < 1 Week: 59%
- 1-3 Months: 14%
- 6-12 Months: 4%
- > 12 Months: 23%

DO MEP AND RESTING PAIN SEVERITY DIFFER?

Mean Values of Baseline Resting Pain and Movement-Evoked Pain Across 14 Studies Comparing the Two Pain Types

- Resting Pain: 2.8
- Movement-Evoked Pain: 4.8

Mean Values of Baseline Resting Pain and Movement-Evoked Pain Across 14 Studies Comparing the Two Pain Types

CONCLUSIONS
• Study Design: Less than half were clinical trials
• Study Risk of Bias: Majority rated moderate to high risk
• MEP Measurement: Predominantly by questionnaire; no study used physical performance tests as recommended 5
• Longest Study Time Point: Majority < 1 Week S/P
• MEP Severity: Greater than resting pain
• MEP Associations: Paucity of research, but preliminary associations with time, physical function, quality of life, and psychological distress.

CLINICAL RELEVANCE
An abundance of limitations exist in current research. However, preliminary indications are that MEP is more severe than resting pain and associated with individual factors, and thus should be considered clinically.

FUTURE DIRECTIONS
• Measure MEP using Physical Performance Measures
• Measure MEP at longer post-operative time points
• Complex modeling to elucidate association between MEP and recovery factors