Common Causes and Rates of Readmissions in Home Health Following Total Hip Arthroplasty or Total Knee Arthroplasty: A Systematic Review
Paige Fleagle, SPT, LAT, ATC, Nicole Reale, SPT, Tracey Collins, PT, PhD, MBA, GCS, Department of Physical Therapy, University of Scranton, Scranton, PA

INTRODUCTION
Total hip arthroplasty (THA) and total knee arthroplasty (TKA) were among the most common surgical procedures performed in the US in the past decade.1,2,3 It is not uncommon for hospital readmission following these procedures making it important that patients receive the best care plan and be discharged (D/C) to the most appropriate and cost efficient location to reduce the risk of readmission.

PURPOSE
The purpose of this systematic review was to determine common causes and the rates of readmission among several D/C locations including home health, skilled nursing facility (SNF), and inpatient rehabilitation facility (IRF), following THA or TKA.

METHODS
A literature search of MEDLINE/PubMed, Proquest Central and ScienceDirect was performed using search terms: (home health) AND (readmission rates OR patient readmission) AND (total knee arthroplasty OR total hip arthroplasty). Search limits were: English language, human subjects, and publication dates between 2005 and 2015. Studies were excluded if they did not investigate home health, readmission rates, TKA, or THA. Two reviewers independently assessed each study for methodological quality and came to a consensus based on PEDro guidelines.

RESULTS
A total of 418 articles were assessed for eligibility. Following detailed evaluation, 11 studies satisfied the criteria. PEDro scores ranged from 1 to 3, with a mean of 2.43. Sample sizes ranged from 222 to 1,453,493 subjects who underwent primary THA or TKA. Post-op observation ranged from 1 to 18 years. Observation for readmission ranged from 15 days to 1 year. Eight studies looked at readmission rates; eight studies looked at cause of readmission. Most common causes of readmission were: surgical, orthopedic device or cardiovascular problems, blood disorders, and post-op infections. Ten studies looked at THA; five studies looked at TKA. THA: Readmission rates ranged from 1.0-16.9%; patients D/C home from 1.5-10.5%, SNF from 1.4-12.3%, and IRF from 4.2-5.1%. Three studies found statistical significance following THA in readmissions home vs. SNF/IRF (p<0.001) TKA: Readmission rates ranged from 1.8-5.53%; patients D/C home ranged from 2.7-3.3%, SNF from 3.7-4.4%, and IRF 3.9%.

CONCLUSIONS
There is mild to moderate evidence that patients D/C home with home health, following THA, have lower readmission rates compared to those D/C to a SNF or IRF. The evidence following TKA did not conclude which D/C location had the lowest readmission rate. There is mild to moderate evidence patient readmissions occur most often due to surgical, orthopedic device, or cardiovascular problems, blood disorders, or post-op infection. Further research is needed for more conclusive evidence for readmission rates and common causes of follow-up and readmission rates following THA and TKA.

Search result from all databases = 418
Articles excluded by title and abstract = 399
Articles remaining = 19
Articles excluded by full text = 6
Duplicates = 2
Total articles included = 11

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CLINICAL RELEVANCE
Overall readmission rates for THA and TKA were similar. However, readmissions for patients D/C home, to SNF, or IRF, s/p THA, were higher compared to TKA. Patients D/C home with home health s/p THA, had lower readmission rates compared to those D/C to SNF or IRF. Clinicians should be proactive in the prevention of the most common causes of readmission following THA or TKA.

References: