

Group Therapy for Adults with Hip Replacements

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OT649: Evidence Based Practice III

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Critically Appraised Topic (CAT)

The final portfolio contains four research articles from both national and international journals. Study design includes two randomized control trials, one cohort design, and one scoping review. All studies relate directly to components of the evidence-based practice question and will be used to draft new practice guidelines for group therapy implementation within the inpatient rehabilitation setting.

*Focused Question*

Is group therapy effective in improving activities of daily living (ADL) skills in older adults with hip replacement compared to individualized sessions?

Clinical Scenario:

Encompass Health conducts group therapy sessions with six to ten clients every Saturday to help improve functional abilities, which are essential for daily tasks. Encompass currently holds group sessions for individuals who share similar diagnoses, however interest in current research that involves hip replacement clients has been discussed. The purpose of this project is to assist occupational therapists in determining the effectiveness of group therapy in comparison to individual therapy for hip replacement to improve ADLs in older adults.

Search Methodology and Terms:

Databases and Sources Searched	Search Terms Used	Limit Used
<ul style="list-style-type: none"> <li>● PubMed</li> <li>● Embase</li> <li>● CINAHL</li> <li>● Scopus</li> </ul>	(adult OR geriatric) AND (“Hip Replacement” OR THA) AND (“occupational therapy”) AND (“group therapy” OR “group rehabilitation”)	<ul style="list-style-type: none"> <li>● Full text</li> <li>● Last 15 years</li> <li>● Abstract included</li> <li>● Peer Reviewed</li> </ul>

Inclusion Criteria for Articles	Exclusion Criteria for Articles
<ul style="list-style-type: none"> <li>● Hip Replacement Clients</li> <li>● Group Therapy</li> <li>● Older Adults &lt;65</li> <li>● Geriatrics</li> <li>● Activities of Daily Living</li> <li>● Self-Care Activities</li> <li>● Articles Published since 2009</li> </ul>	<ul style="list-style-type: none"> <li>● Psychiatric Clients</li> <li>● Stroke Clients</li> <li>● Children</li> <li>● Adults: &gt;65</li> <li>● Studies older than 2009</li> </ul>

*Review Process:*

- The title of each article was scanned, followed by the abstract to ensure that the article met basic criteria including population, intervention, and diagnosis.
- Individual analyses were completed, including determining the level of evidence for each article and selecting the appropriate form to complete.
- Data extracted included: purpose, setting, sample, study design, outcomes, and the

<p>interventions highlighted.</p> <ul style="list-style-type: none"> <li>Quality control was ensured through mentor review and peer-review.</li> </ul>
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\*Modified Prism Form in Appendix A

*Search Results by Level of Evidence:*

Level II	2 RCT, Cohort Study, Scoping Review	4
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Total Articles Reviewed: 4

*Main Findings:*

Level II	<p>Aprile, I., Rizzo, R.S., Romanini, E., De Santis, F., Marsan, S., Rinaldi, G., &amp; Padua, L. (2011)</p> <ul style="list-style-type: none"> <li>No difference in outcomes with group vs. individual</li> <li>Quality Score: 72%</li> </ul> <p>Coulter, C. L., Weber, J. M., &amp; Scarvell, J. M. (2009)</p> <ul style="list-style-type: none"> <li>Class-based exercise rehabilitation was the most efficient method of delivery</li> <li>Quality Score: 76%</li> </ul> <p>Huang, T. T., Sung, C. C., Wang, W. S., &amp; Wang, B. H. (2017)</p> <ul style="list-style-type: none"> <li>2 groups</li> <li>Education empowerment program increased self-care competence</li> <li>Had a significant increase in ADL and mobility in all participants</li> <li>Quality Score: 88%</li> </ul> <p>Spalding, K., Gustafsson, L., &amp; Di Tommaso, A. (2020)</p> <ul style="list-style-type: none"> <li>Literature review of occupation based groups</li> <li>Interventions strictly ADL focus</li> <li>Evidence on functional outcomes inconsistent</li> <li>Comparison between individual and group therapy</li> <li>Quality Score: 90%</li> </ul>
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\* CAPS in Appendix B

*Limitations:*

Level II	<ul style="list-style-type: none"> <li>Small sample size</li> <li>Lack of follow up</li> <li>Not strictly related to hip replacement</li> <li>Incomplete reporting of intervention details (Spalding, K., Gustafsson, L., &amp; Di Tommaso, A., 2020)</li> </ul>
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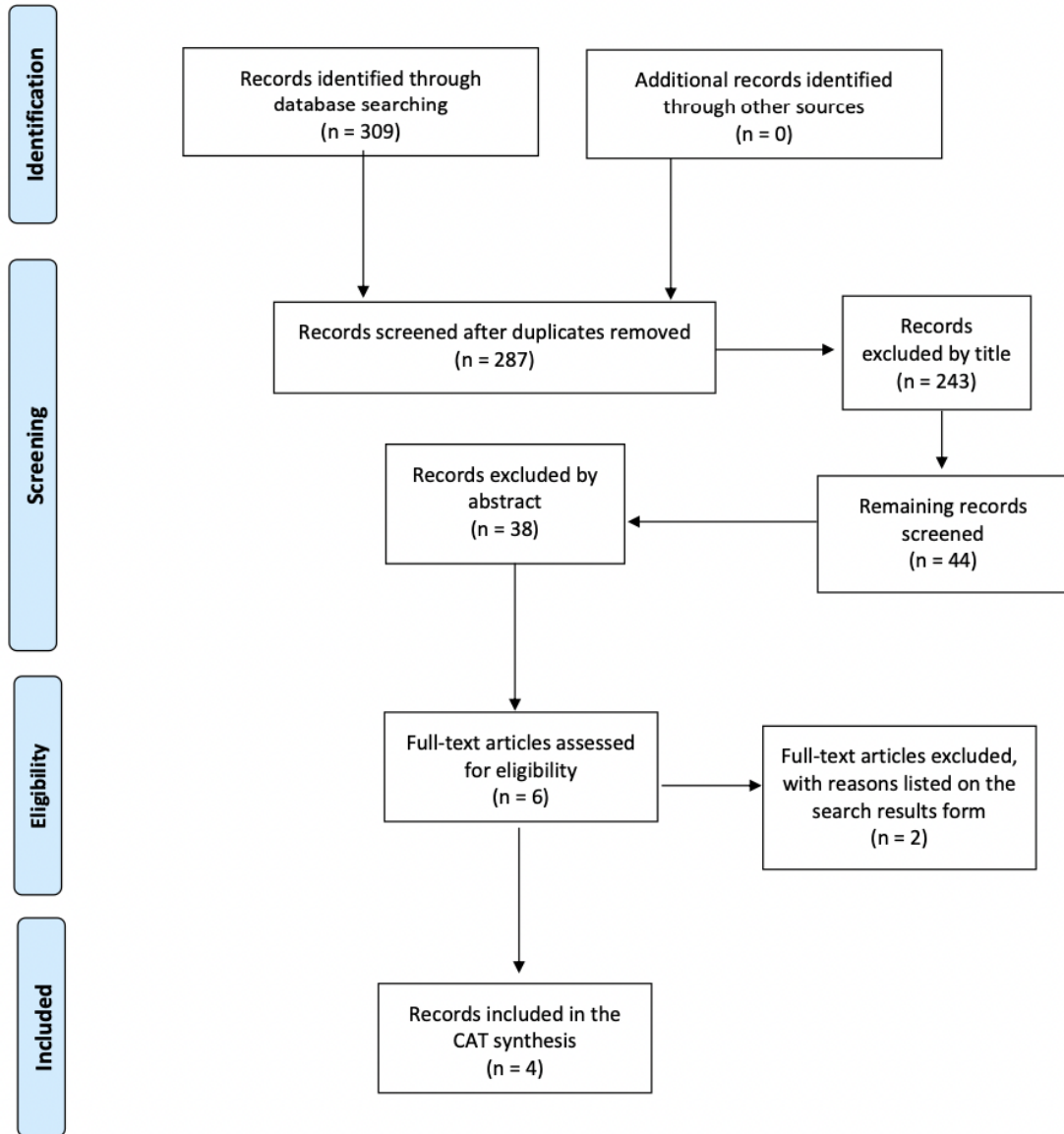
**Bottom Line for Occupational Therapy Practice:**

While all articles showed benefits for group therapy, only one article showed statistically significant outcomes for group therapy in the inpatient rehabilitation setting. The popularity of using such groups for time and resource efficiency makes it relevant to explore how occupational therapists' structure and implement this intervention within the inpatient rehabilitation setting. However, the research is lacking regarding group therapy for individuals with hip replacements. In the future, consistent pre-test/post-test/follow-up is recommended in order to effectively monitor group outcomes.

Appendix A:



**Modified PRISMA 2009 Flow Diagram (awm 2022)**



From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit [www.prisma-statement.org](http://www.prisma-statement.org).

## Reference

Aprile, I., Rizzo, R.S., Romanini, E., De Santis, F., Marsan, S., Rinaldi, G., & Padua, L. (2011). Group rehabilitation versus individual rehabilitation following knee and hip replacement: A pilot study with randomized, single-blind, cross-over design. *European Journal of Physical and Rehabilitation Medicine*, 47(4), 551-559.

<https://www.minervamedica.it/en/getfreepdf/cWV5OW4vL0VtRUhFRE02OTZoSURJVTAvSmxKVFlwZzByTzUzOGV6VTIZK1NSblhXSFVYbGIFQkRyRlBvQm9xRQ%253D%253D/R33Y2011N04A0551.pdf>

Coulter, C. L., Weber, J. M., & Scarvell, J. M. (2009). Group physiotherapy provides similar outcomes for participants after joint replacement surgery as 1-to-1 physiotherapy: a sequential cohort study. *Archives of physical medicine and rehabilitation*, 90(10), 1727–1733. <https://doi.org/10.1016/j.apmr.2009.04.019>

Huang, T. T., Sung, C. C., Wang, W. S., & Wang, B. H. (2017). The effects of the Empowerment Education Program in older adults with total hip replacement surgery. *Journal of advanced nursing*, 73(8), 1848–1861. <https://doi.org/10.1111/jan.13267>

Spalding, K., Gustafsson, L., & Di Tommaso, A. (2020). Occupation-based group programs in the inpatient hospital rehabilitation setting: A scoping review. *Disability and Rehabilitation*, 1-11. <https://doi-org.ezproxy.uthsc.edu/10.1080/09638288.2020.1813818>

Name of Appraisers: Riley Burford MOT/S, Alishah Pirwani MOT/S, Elizabeth Seals MOT/S, Hillary Talley MOT/S, and Tylan Wakefield MOT/S

Date Completed: April 5, 2022

**Appendix B:**

## Critically Appraised Paper #1

Coulter, C. L., Weber, J. M., & Scarvell, J. M. (2009). Group physiotherapy provides similar outcomes for participants after joint replacement surgery as 1-to-1 physiotherapy: a sequential cohort study. *Archives of physical medicine and rehabilitation*, 90(10), 1727–1733. <https://doi.org/10.1016/j.apmr.2009.04.019>

Purpose of Study	To compare effectiveness and time efficiency of physiotherapy rehabilitation provided within a group with an individualized program provided at home for improving participants' outcomes after total joint replacement surgery.
Setting	A tertiary acute care hospital
Participants of Sample	Consecutive patients (N=51) having hip or knee replacement surgery in an 8-month period and who were able to weight-bear postoperatively.
Study Design and Methodology	Quasi Experimental sequential cohort trial with 12-week follow-up. Patients admitted to the study during the first 4 months were assigned to the class group, and those admitted during the following 4 months were assigned to the home group.
Level of Evidence	Level 2
Outcomes and Main Findings	<ul style="list-style-type: none"> <li>- Patients evaluated by a single physiotherapist, unblinded to groups.</li> <li>- There was no difference between the 2 groups for either the WOMAC or SF-36 scores, 6-m walk test, TUG test, or ROM measures at 12 weeks</li> <li>- The class group accessed more frequent physiotherapy than the home group (mean, 7.5 and 3.96 visits, respectively)</li> <li>- The physiotherapist's time was less per patient per visit for the class group (mean, 27min direct and 10min indirect) than for the home visits (mean, 38min direct and 26min indirect).</li> <li>- Study suggests the class-based exercise rehabilitation was the most efficient method of the physiotherapy service, without cost to patient outcomes.</li> </ul>

<p>Intervention Highlighted Through Research</p>	<ul style="list-style-type: none"> <li>- Physiotherapy commences 1 day after surgery &amp; patients are discharged home when independently mobile</li> <li>- After hospital discharge, all patients are given a standard exercise program to be performed 3 times daily</li> <li>- Patients admitted during the first 4 months received physiotherapy rehabilitation consisting of a circuit-based group exercise program</li> <li>- Patients commenced rehabilitation on the next available class day post discharge and could attend twice/week for 4 weeks.</li> <li>- Exercises for the class and home groups were identical and included wall squats, quadriceps sets, sit to stand, exercises on stairs, lunges, gluteal sets, hip abductor sets, and exercise bike.</li> </ul>
<p>Limitation</p>	<ul style="list-style-type: none"> <li>- Cohort study with no control group.</li> <li>- Patients not randomly assigned to groups</li> <li>- Assessors were not blinded</li> <li>- Small sample size</li> </ul>
<p>This Study Was Identified as the “Best” Evidence and Selected for the Portfolio for the Following Reasons:</p>	<p>Compared the effectiveness of class group rehabilitation vs at home rehabilitation which is similar to our PICO intervention</p>

**Quality Report: 76%**

## Critically Appraised Paper #2

Huang, T. T., Sung, C. C., Wang, W. S., & Wang, B. H. (2017). The effects of the empowerment education program in older adults with total hip replacement surgery. *Journal of advanced nursing*, 73(8), 1848–1861. <https://doi.org/10.1111/jan.13267>

Purpose of the study	To measure the effectiveness of an education empowerment group program on primary (self-efficacy and self-care competence) and secondary outcomes (Activities of Daily Life, mobility, depressive mood and quality of life) for older adults with total hip replacement surgery.
Setting	Participants were recruited from orthopedic units of two hospitals located in Northern Taiwan at admission.
Participants or sample	The inclusion criteria consisted of adults who were 50 years of age or older, have been admitted for their 1st THR, have not experienced cognitive impairment nor have been diagnosed with psychiatric disorders, are able to communicate and comprehend Chinese, were not participating in other studies and consented to participate in this study. A total of 116 subjects were recruited for this trial, then randomized to the EE intervention (n = 59) and the comparison (n = 57) group.
Study design and methodology	<ul style="list-style-type: none"> <li>- Randomized control trial</li> <li>- Author used computer-developed randomization tables to assign subjects</li> <li>- Randomly assigned to one of the two groups: EE or control</li> </ul>
Level of evidence	III – Level 2



<p>Outcomes and main findings</p>	<ul style="list-style-type: none"> <li>- Education empowerment program can significantly improve the self-care competence and self-efficacy and lower depressive inclination among older adults with total hip replacement.</li> <li>- The results showed a statistically significant increase in ADL and mobility in all participants</li> </ul>
<p>Intervention highlighted through the research</p>	<p>The five times total, 12-week EE intervention was aimed to empower older patients with THR to develop their own self-management program to meet their needs. This education empowerment intervention based on six empowerment components by Kuo and Wang (2013) and five-step empowerment strategy by Chen and Wang (2012) who modified from Freire’s three-stage methodology. The instruments the researchers developed by measuring 2 primary outcomes in this study were based on observation, clinical experience and a comprehensive literature review: the THR Self-efficacy Scale and the Self-care competence Scale (knowledge and behavior).</p>
<p>Limitations</p>	<ul style="list-style-type: none"> <li>- The participants were sampled from only two hospitals within close proximity, in northern Taiwan and the sample size of patients is also relatively small.</li> <li>- The follow up period for the participants was relatively short</li> <li>- This nurse-lead intervention did not involve multidisciplinary clinicians and family</li> </ul>
<p>This study was identified as the “best” evidence and selected for the portfolio for the following reasons:</p>	<p>I think this article is beneficial to our research, because it incorporates the use of an educational empowerment group. The study looks further into self-efficacy, self-care, ADLs, mobility, depression, and quality of life.</p>

**Quality Report: 88%**

## Critically Appraised Paper #3

Aprile, I., Rizzo, R.S., Romanini, E., De Santis, F., Marsan, S., Rinaldi, G., & Padua, L. (2011). Group rehabilitation versus individual rehabilitation following knee and hip replacement: A pilot study with randomized, single-blind, cross-over design. *European Journal of Physical and Rehabilitation Medicine*, 47(4), 551-559. <https://www.minervamedica.it/en/getfreepdf/cWV5OW4vL0VtRUhFRE02OTZoSURJVTAvmxKVFlwZzByTzUzOGV6VTIZK1NSblhXSFVYbGIFQkRyRIBvOm9xRQ%253D%253D/R33Y2011N04A0551.pdf>

Purpose of the study	To compare the efficacy of group rehabilitation sessions to individual rehabilitation sessions for those who have undergone a knee or hip replacement.
Setting	Inpatient physiotherapy department that provided 24-hour care.
Participants or Sample	<p>This study included 27 patients with a mean age of 76.4.</p> <ul style="list-style-type: none"> <li>● All patients attended 3 weeks of conventional therapy before beginning the study.</li> <li>● Participants were randomized using a table of random numbers.</li> </ul>
Study design and Methodology	<p>A pilot study with a randomized, single-blind, crossover design.</p> <p>A group of participants attended 15 days of individual treatment sessions daily for one hour, followed by group treatment sessions for 2 hours per day for the remaining 15 days.</p> <ul style="list-style-type: none"> <li>● 4 participants per group</li> <li>● all received the same exercise rehabilitation and gait training.</li> </ul>
Level of evidence	Level II evidence

<p>Outcomes and main findings</p>	<p>No statically significant differences between group and individual therapy sessions.</p> <p>Harris Hip Score (HHS) was high in validity and reliability.</p> <ul style="list-style-type: none"> <li>● HHS Questionnaire includes:             <ul style="list-style-type: none"> <li>○ Ease/difficulty w/ shoes and socks</li> <li>○ Functional use of stairs</li> <li>○ Gait/ equipment use</li> <li>○ Walking distance</li> <li>○ Access to public trans.</li> <li>○ Functional ROM</li> <li>○ Sitting tolerance</li> </ul> </li> </ul>
<p>Intervention highlighted through the research</p>	<p>Individual sessions were 1 hour and group sessions were 4 hours.</p> <ul style="list-style-type: none"> <li>● Rehab exercises were given such as weight bearing proprioception and strength and flexibility training.</li> </ul>
<p>Limitations</p>	<ul style="list-style-type: none"> <li>● Small sample size</li> <li>● Including 2 populations of different procedures (hip and knee arthroplasty)</li> <li>● Participants attended individual therapy prior to inclusion</li> </ul>
<p>This study was identified as the “best” evidence and selected for the portfolio for the following reasons:</p>	<ul style="list-style-type: none"> <li>● Uses assessment tools for measuring baseline and outcomes that include ADL’s</li> <li>● supports the need for more evidence on the use of group therapy sessions for hip arthroplasty.</li> </ul>

**Quality Report: 72%**

## Critically Appraised Paper #4

Spalding, K., Gustafsson, L., & Di Tommaso, A. (2020). Occupation-based group programs in the inpatient hospital rehabilitation setting: A scoping review. *Disability and Rehabilitation*, 1-11. <https://doi-org.ezproxy.uthsc.edu/10.1080/09638288.2020.1813818>

Purpose of the study	The purpose of this paper is to summarize the current literature regarding the types of occupation-based group programs used within general inpatient rehabilitation and the reported outcomes with the following PICO questions: <ol style="list-style-type: none"> <li>1. What types of occupation-based interventions have been delivered in a group format in inpatient hospital rehabilitation settings?</li> <li>2. What are the reported outcomes of occupation-based group delivered interventions for the inpatient hospital rehabilitation population?</li> </ol>
Setting	Inpatient rehab hospital but varied across the ten studies. Five studies were set in a general rehabilitation unit, four set in specialist brain injury and one in specialist stroke.
Participants or sample	Adults (18 years or older) in any diagnostic related group are the main (>50%) target population. Participant populations and settings varied across the ten studies. TBI (3) and stroke (3) were the most common, followed by reconditioning (1), total hip replacement (1), Occupational Therapy clinicians (1) and spinal cord injury (1). Total number of participants were 2,040 and the gender is unknown.
Study design and methodology	A scoping review was conducted. The methodological quality of the literature was reviewed using the Critical Appraisal Skills Program (CASP) checklist for randomized control trials (RCTs), cohort studies and qualitative research.
Level of evidence	Level II Study

<p>Outcomes and main findings</p>	<p>In response to the first research question, this review found that occupation-based groups are used in inpatient rehabilitation but there is variability in the group processes. Group intervention differed in frequency, dosage, design, and content delivery. Group size varied with majority of studies not reporting this feature. Some groups were run every day, others only weekly. Some used a standardized approach to content delivery, whereas others deliberately did not use manuals or scripts. A finding from this review was that group processes are important to services however the impact on patient outcomes is unknown. Further group process evaluations to understand the wider impact of group methods would be beneficial.</p> <p>In answering the second question regarding outcomes of occupation-based groups, the review found that several of the studies only discussed effectiveness of group formation and delivery as opposed to participant outcomes. Some occupational therapists find it challenging implementing occupation-based outcome measures into practice. Reasons for this include having limited clinically meaningful applications, limited availability, and difficulty in accessing standardized instruments. Only three studies in this review used standardized functional outcome measures and inconsistent evidence was reported. Given the variability of functional outcome measures in the reviewed studies, the impact of this intervention, particularly on a participant's confidence and functional performance outcomes remains unclear. More research on the measurement of self-efficacy and occupational performance for this intervention is needed.</p> <p>The results of this scoping review present a dearth of evidence to appropriately comment on the impact of an occupation-based group treatment focus in inpatient rehabilitation. The popularity of using such groups for time and resource efficiency makes it relevant to explore how occupational therapists' structure and implement this intervention whilst honoring the principles of client-centeredness and the</p>
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	<p>individualized nature of occupation-based practice. Further research is needed to understand the impact of this treatment approach to achieve maximal occupational performance outcomes for people in rehabilitation and to support advocacy for access to occupational therapy services.</p>
<p>Intervention highlighted through the research</p>	<p>All ten studies described groups that had an occupational focus on instrumental activities of daily living, specifically life skills/home management/household tasks (5), community access (4), breakfast (4), lunch (3), general meal preparation (2), shopping (2) and budgeting (1). Only one study described using self-care as an occupational focus for the group activity.</p> <p>There was variety in the delivery of groups across the ten studies. Frequency varied from one group per week to up to six groups, with an average duration of 60 min. Group participant size was difficult to describe as six of the ten studies did not specify this feature. All groups were either run by an occupational therapist alone, or with support from an occupational therapy assistant or occupational therapy students.</p> <ul style="list-style-type: none"> <li>• Unit A: occupation-based group program to complement 1:1 therapy (incl. daily breakfast, daily life skills and weekly community shopping group) Unit B: largely individual therapy (standard care) with a weekly recreational cooking group</li> <li>• Individual and group PT and OT sessions up to 5 days per week including UL group, breakfast group, lunch group and balance group.</li> <li>• 5 sessions over 16 days, following the same structure. Based on individual goals with session themes inspired by OT theory.</li> <li>• A well-established OT group programme across multiple clinical sub-acute settings, including impairment- and activity-focused content.</li> <li>• Task-focused activity groups based on individual goals (not a support or</li> </ul>

	<p>education group). Program underpinned by theory and current evidence.</p> <ul style="list-style-type: none"> <li>• Task-focused activity groups based on individual goals. Activity/ participation based (meal preparation and community access) and impairment-based (cognition and upper limb) Program underpinned by theory.</li> <li>• Control: standard care which included basic activity pacing education. Intervention: standard care and participation in a specific activity pacing group provided in a standard format.</li> <li>• Cognitive-didactic: 1:1 explicit learning and cognitive abilities (impairment based) Functional-experiential: group based procedural learning occurring in real life performance situations.</li> <li>• Groups run by MDT. Home management skills was only occupation-based group documented in study.</li> <li>• Service 1: usual care (individual therapy) Service 2: participation in a functional group, usual care as required</li> </ul>
<p>Limitations</p>	<p>Small number of studies, incomplete reporting of intervention details, and the small and heterogeneous samples. It is important to note that a scoping review does not require the authors to complete an in-depth analysis of the quality of the studies but provide an overview of the literature and key themes within. As such, the conclusions are subject to bias and should be interpreted with caution.</p>
<p>This study was identified as the “best” evidence and selected for the portfolio for the following reasons:</p>	<ul style="list-style-type: none"> <li>• Focused on inpatient rehab setting</li> <li>• Included Hip Replacement patients</li> <li>• Included Group Therapy</li> <li>• Incorporated the use of ADLs and IADLs to improve functional outcomes</li> </ul> <p>This study was identified as the “best” evidence because it meets all the guidelines of our PICO question.</p>

**Quality Report: 90%**

**Recommendations for Implementation of Evidence:**

Group therapy is feasible to implement in all rehabilitation settings for clients who have undergone a total hip arthroplasty. However, more research needs to be done. Future research needs to implement a consistent pre-test, post-test, and follow-up to effectively monitor group outcomes. The ADL chart is recommended as a tool to use in order to track client outcomes.

**Outcome Tracker For Group Sessions**

The therapists can use this form to document measurements at initial assessment as a pre-test, post-test, and 3-month follow up after the client has been discharged. This chart can easily be converted into a graph to measure changes over time.

CLIENT NAME: Patient A

<u>DATE</u>	<u>ADL</u>	<u>HIP PRECAUTIONS FOLLOWED</u> (yes/no)	<u>ASSISTANCE LEVEL REQUIRED</u>	<u>AE USED</u> (if applicable)	<u>LENGTH OF SESSION</u>
4/4/22	lower body dressing	yes	moderate	reacher	30 minutes
4/6/22	Lower body dressing	yes	moderate	Sock aide	30 min
4/8/22	Lower body dressing	yes	Min assist	reacher	30 min
4/11/22	Lower body dressing	yes	Stand by	reacher	30 min
<u>TOTAL # OF SESSIONS</u>					
4					



### Group Session Outcomes

