

# Feasibility and Effectiveness of a Prehabilitation Program Prior to Breast Cancer Surgery: A Critically Appraised Topic

Emma Choi, MOT/S, Carol Houston, MOT/S, Morgan Mills, MOT/S, Alissa Lee, MOT/S, Kayla Woods, MOT/S  
Faculty Advisor: Anita Witt Mitchell, PhD, OTR, FAOTA; Mentor: Holly Greer, MOT, OTR/L, CLS  
University of Tennessee Health Science Center

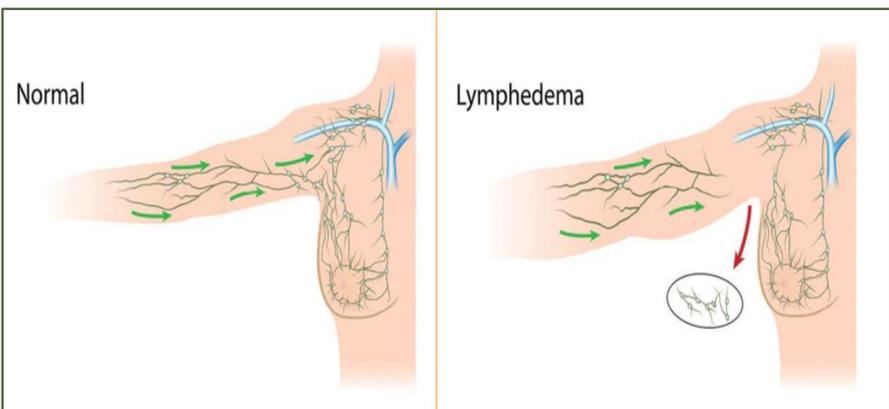
## BACKGROUND & RATIONALE

- Methodist University Hospital plans to open an outpatient clinic for breast cancer surgery patients
- No prehabilitation protocol has been established
- Need to determine the feasibility and effectiveness of a prehabilitation protocol to decrease common complications

## PICO QUESTION

For patients undergoing breast cancer surgery, is a prehabilitation (prehab) program feasible and effective for decreasing complications related to surgery as compared to only receiving post-surgical rehabilitation?

## COMMON COMPLICATIONS



<https://www.enerskin.com/blogs/blogs/compression-sleeves-for-lymphedema-management>

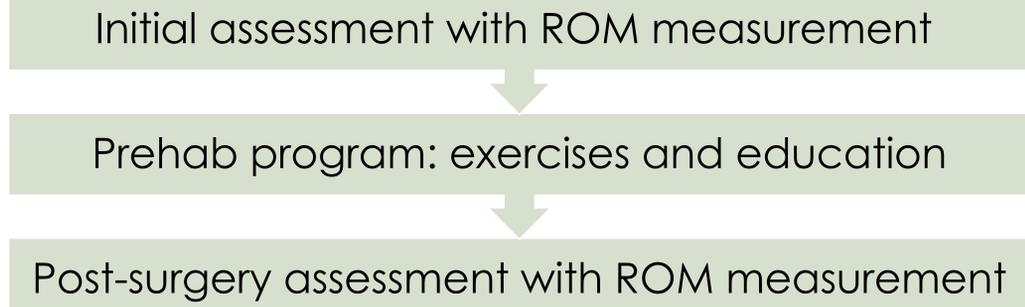
## SEARCH METHODS

- Databases**
  - PubMed, CINHAL, Medline, Google Scholar, SCOPUS
- Search Terms**
  - (mastectomy OR breast cancer surgery) AND (prehabilitation OR prehab\*)
- Inclusion Criteria**
  - English, Studies with female patients
- Exclusion Criteria**
  - Studies occurring more than 10 years ago

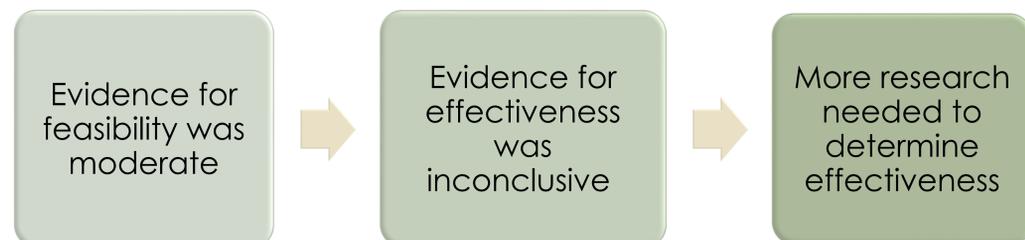
## SEARCH RESULTS & MAIN FINDINGS

Study	Intervention	Findings	Limitations
<b>Level II</b>			
Heiman et al. • RCT • QS: 74%	• 30 min/day unsupervised aerobic physical activity (4 weeks before and after surgery)	• No statistical significance difference found in physical recovery	• Small sample • Selection Bias • No standardized intervention duration • No long-term follow-up
Wu et al. • Cohort • QS: 72%	• 8 UE resistance training exercises • Health education • Psychosocial support	• Multimodal prehab is feasible	
<b>Level III</b>			
Baima et al., • Small Scale RCT • QS: 68%	• 3 UE exercises	• 66% lost > 10 °shoulder abduction ROM • 29% worse shoulder pain 1 mo. postop • 15% worse shoulder pain 3 mo. Postop • Completed exercises	• Variable follow-up evaluation • Variable type of surgery • Limited inter-rater reliability of ROM measurements
Knoerl et al • Secondary Analysis of an RCT • QS: 70%	• 30–45 min of aerobics • 20 min of strength training • 10 min of stretching • Surgery prep book • Audio guide	• Both groups displayed significant improvements in anxiety and stress	• Secondary analyses of a separate study • Small sample
<b>Level IV</b>			
Nilsson et al. • Correlational Study • QS: 95.45%	• Self-report of physical activity prior to surgery	• $\wedge$ of physical activity = $\wedge$ recovery 3 weeks post-op • Level of physical activity did not have a significant effect on mental recovery	• Researcher availability

## PREHABILITATION COMPONENTS



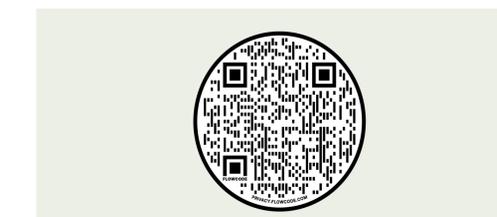
## CLINICAL BOTTOM LINES



## RECOMMENDATIONS FOR IMPLEMENTATION

- Recommend implementing a prehab program with caution and monitoring.
- Recommend monitoring results by using Quick Dash and Lymphedema Quality of Life Tool (LYMQOL ARM).
- Recommend variety of upper body resistance/strength training, aerobic exercises, and stretching.

## PATIENT REPORT



## REFERENCES

