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

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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?

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

<table>
<thead>
<tr>
<th>Study</th>
<th>Intervention</th>
<th>Findings</th>
<th>Limitations</th>
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<tbody>
<tr>
<td>Level II</td>
<td>Herman et al. • RCT • Q5: 74%</td>
<td>• 30 min/day supervised aerobic physical activity (4 weeks before and after surgery)</td>
<td>• No statistical significance difference found in physical recovery</td>
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<td>Wu et al. • Cohort • Q5: 72%</td>
<td>• 8 UE resistance training exercises • Health education • Psychosocial support</td>
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<td>Level III</td>
<td>Baima et al. • Small Scale RCT • Q5: 68%</td>
<td>• 3 UE exercises</td>
<td>• 68% loss &gt; 10° shoulder abduction ROM • 29% worse shoulder pain 1 mo. postop • 15% worse shoulder pain 3 mo. Postop • Completed exercises</td>
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<tr>
<td>Knorr et al. • Secondary Analysis of an RCT • Q5: 70%</td>
<td>• 30-45 min of aerobics • 20 min of strength training • 10 min of stretching • Surgery prep book • Audio guide</td>
<td>• Both groups displayed significant improvements in anxiety and stress</td>
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<td>Level IV</td>
<td>Nilsson et al. • Correlational Study • Q5: 95.45%</td>
<td>• Self-report of physical activity prior to surgery</td>
<td>• ^ of physical activity = ^ recovery 3 weeks post-op • Level of physical activity did not have a significant effect on mental recovery</td>
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COMMON COMPLICATIONS
- Lymphedema
- Adhesive Capsulitis (Frozen Shoulder)
- Limited upper extremity mobility
- Diminished psychosocial health

PREHABILITATION COMPONENTS
- Initial assessment with ROM measurement
- Prehab program: exercises and education
- Post-surgery assessment with ROM measurement

CLINICAL BOTTOM LINES
- Evidence for feasibility was moderate
- Evidence for effectiveness was inconclusive
- More research needed to determine effectiveness

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