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Contribution ID: 191

Type: 1 - Scientific Poster

## Randomized comparison of supervised exercise for lymphedema and related arm symptoms: SAFE trial exploratory analyses

Wednesday 22 July 2026 12:55 (20 minutes)

### Background

Exercise is increasingly recognized as beneficial in addressing breast cancer treatment-related sequelae including lymphedema. However, uncertainty remains regarding the safety of low levels of supervision. Currently, only supervised exercise is recommended for those at risk of, or with, lymphedema, yet head-to-head trials directly comparing supervision levels are limited. These exploratory analyses from the SAFE trial compared low- versus high-supervision exercise on breast cancer-related lymphedema prevalence and associated upper-extremity symptoms.

### Methods

Sixty women undergoing, or within five years of treatment for stage II+ breast cancer were randomized to a 12-week, individually prescribed aerobic and resistance exercise program (target 150 minutes/week, moderate-intensity) with LOW (five in-person sessions) or HIGH (twenty in-person sessions) supervision. Outcomes included lymphedema prevalence (self-reported diagnosis and objectively measured via bioimpedance spectroscopy) and severity of fifteen upper-extremity symptoms related to lymphedema including heaviness, tightness and range of movement (self-report, five-point scale ranging from 0 (none) to 4 (extreme)). Tests of statistical significance were 2-sided. Analyses followed intention-to-treat principals. Registered at: Australian and New Zealand Clinical Trials Registry, ACTRN12616000547448

### Results

Twenty participants were identified with lymphedema at baseline based on objective and/or self-report of a clinical diagnosis. At follow-up, there was no evidence to suggest that change in prevalence differed according to supervision level, irrespective of assessment method. Both groups maintained or improved most lymphedema-related arm symptoms, though potential for additional benefit in range of movement was observed in HIGH, with 52% reporting improvement versus 12% in LOW ( $P < 0.05$ ).

### Conclusion

Though future studies are warranted to confirm findings, the results of this study indicate that breast cancer survivors with or at risk for lymphedema can benefit from exercise participation, irrespective of low or high supervision. Overall results support the value of exercise, even at lower supervision levels, which may enhance the feasibility of wide-spread, equitable implementation of exercise services.

### Keywords

Breast cancer, Exercise, Supervision, Lymphedema

### Conflict of Interest & Ethical Approval

yes

### Abstract submitters declaration

yes

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**Session Classification:** Poster Session