

# Breast cancer surgery

## Aspects of patient-reported outcomes and physical activity

### Akademisk avhandling

som för avläggande av medicine doktorsexamen  
vid Sahlgrenska akademien, Göteborgs Universitet kommer att offentlig försvaras i  
Hjärtats aula, Vita Stråket 12, Sahlgrenska Universitetssjukhuset, Göteborg,  
fredagen den 10 december 2021, klockan 13.00

av

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### Avhandlingen baseras på följande delarbeten

- I. Heiman Ullmark J, Sahlin C, Hallberg H, Olofsson Bagge R  
*Breast-conserving surgery using an inframammary fold incision technique for breast cancer*  
Journal of Plastic Surgery and Hand Surgery 2017; 51(2):105-111
- II. Dahlbäck C, Heiman Ullmark J, Rehn M, Ringberg A, Manjer J  
*Aesthetic result after breast-conserving therapy is associated with quality of life several years after treatment. Swedish women evaluated with BCCT.core and BREAST-Q™*  
Breast Cancer Research and Treatment 2017 Aug;164(3):679-687
- III. Heiman J, Onerup A, Wessman C, Haglind E, Olofsson Bagge R  
*Recovery after breast cancer surgery following recommended pre and postoperative physical activity: (PhysSURG-B) randomized clinical trial*  
British Journal of Surgery 2021 Jan 27; 108(1):32-39
- IV. Heiman J, Onerup A, Bock D, Haglind E, Olofsson Bagge R  
*The effect of non-supervised physical activity before and after breast cancer surgery on quality of life, results from a randomized controlled trial (PhysSURG-B)*  
Manuscript submitted
- V. Heiman J, Pavia J, Bock D, Haglind E, Olofsson Bagge R  
*Recovery and sick leave at 12 months in the randomized controlled physical activity trial (PhysSURG-B) – factors predicting prolonged sick leave*  
Manuscript submitted



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### Abstract

The aim of this thesis was to evaluate patient-reported outcomes (PROs) following breast cancer surgery using three different studies.

*Paper I* examined breast-conserving surgery through an inframammary fold incision using a retrospective cohort (n=27). We found the technique to be surgically safe with high levels of satisfaction with breast, evaluated using a patient-reported outcome instrument (BREAST-Q™).

*Paper II* compared an objective aesthetic evaluation of breast-conserving surgery using a computer software with long-term patient evaluation of quality of life in a retrospective cohort (n=216). A superior aesthetic rating was significantly correlated with higher patient-reported outcomes scores with BREAST-Q™.

*Papers III-V* describe results from PhysSURG-B, a randomized controlled trial of female patients with breast cancer (n=400) undergoing surgery, comparing an intervention of non-supervised physical activity with usual care. Endpoints were physical and mental recovery, readmissions, reoperations and complications, quality of life and sick leave, measured at 4 weeks or/and 12 months after surgery.

*Paper III* showed a high level of recovery and few complications after surgery. No significant improvement was seen regarding short-term recovery, complications, length of stay, readmissions or reoperations following the intervention compared with usual care. *Paper IV* analysed quality of life, showing high and unchanged levels, with no significant differences seen between the study groups. *Paper V* reported no significant differences regarding long-term recovery and sick leave between intervention and control groups. Predictive factors for sick leave were young age at diagnosis, adjuvant chemotherapy, lower FACT-B score and previous mental health problems.

In conclusion, breast cancer surgery is associated with a high level of recovery, few complications, and with a small impact seen on measures of short- and long-term quality of life. Predictive factors for sick leave could be identified for at-risk patients by using patient-reported outcomes and utilized for future tailored interventions.

Keywords: Breast cancer, Physical activity, Patient-reported outcomes