

**Department of Clinical Neuroscience**  
Division of Insurance Medicine

## **Life situation and (return to) work after breast cancer surgery – a prospective cohort study**

The aim of this interdisciplinary research project is to gain knowledge on factors that hinder and promote return to work among women who have had breast cancer surgery and on how sickness absence influences their quality of life and health.

Breast cancer is the most common cancer diagnosis in women. Since almost 90% of the women survive more than five years, but may suffer from remaining symptoms from treatment and disease, research focusing on consequences for their life situation, are needed. So far, few studies have been conducted concerning factors of importance for (return to) work.

In this prospective cohort study, 750 women, 23-63 years old, who lived in Stockholm and had breast cancer surgery, were followed up for two years. A wide spectrum of data has been collected, via six repeated and comprehensive questionnaires, focus group interviews, different registers, and medical records. The women were included in 2007 to 2009.

Results are used as basis for interventions. Since knowledge is sparse, this extensive data collection was carried out as a first step. The study also offers a unique opportunity to evaluate the recent national “guidelines for sick leave due to breast cancer”, since inclusion started before the introduction. The results may also serve as basis for training of professionals in health care, social security, and work sites.

Also, other types of data sources have been used in some of the studies listed below.

### **Project group**

Kristina Alexanderson	Professor, PhD, <i>project leader</i>
Emilie Friberg	Associate professor, PhD
Agneta Wennman-Larsen	Professor, PhD, RN, <i>assistant project leader</i>

### **Cooperation**

We collaborate with other research groups, e.g., in national projects with patients with hematology diseases and kidney transplantation. We also collaborate with research groups in Belgium and the Netherlands, where corresponding projects are ongoing.

### **Financing**

Financing has been obtained from the Swedish Research Council for Health, Working Life and Welfare, the Swedish Research Council, the Stockholm County Council, the Swedish Cancer Society, the Cancer and Traffic Injury Found, Radiumhemmets forskningsfonder, The Swedish Breast Cancer Association (BRO), the Health Care Science Post-Graduate School of Karolinska Institutet, and Cost.

**Information about studies regarding other types of cancer and sickness absence can be found on our website.**

## Publications in the project

### PhD theses

1. Nilsson M. Psychosocial situation and work after breast cancer surgery - women's experiences. Karolinska Institutet. 2013.
2. Söderman, M. Healthcare professionals' work with sickness absence – with focus on oncology. Karolinska Institutet. 2020.

### Publications in international scientific journals

1. Petersson L-M, Wennman-Larsen A, Nilsson M, Olsson M, Alexanderson K. Work situation and sickness absence in the initial period after breast cancer surgery. *Acta Oncol.* 2011;50:282-8
2. Nilsson M, Olsson M, Wennman-Larsen A, Petersson L-M, Alexanderson K. Return to work after breast cancer: patients' experiences of encounters with different stakeholders. *Eur J Oncol Nurs.* 2011;15:267-74
3. Nilsson MI, Olsson M, Wennman-Larsen A, Petersson L-M, Alexanderson K. Women's reflections and actions regarding working after breast cancer surgery – a focus group study. *Psycho-Oncology* 2013;22(7):1639-44.
4. Wennman-Larsen A, Olsson M, Alexanderson K, Nilsson M, Petersson LM. Arm morbidity and sick leave among working women shortly after breast cancer surgery. *Eur J Oncol Nurs.* 2013;17(1):101-6
5. Petersson L-M, Nilsson M, Alexanderson K, Olsson M, Wennman-Larsen A. How do women value work shortly after breast cancer surgery and are their valuations associated with being on sick leave? *J Occup Rehabil* 2012;23:391-9.
6. Wennman-Larsen A, Alexanderson A, Olsson M, Nilsson M, Petersson L-M. Sickness absence in relation to breast and arm symptoms shortly after breast cancer surgery. *The Breast.* 2013; 22(5):767-772.
7. Saboonchi F, Wennman-Larsen A, Alexanderson K, Petersson LM. Examination of the construct validity of the Swedish version of Hospital Anxiety and Depression Scale in breast cancer patients. *Qual Life Res* 2013;22(10):2849-56
8. Nilsson M, Petersson L-M, Wennman-Larsen A, Olsson M, Alexanderson K. Adjustment and social support at work early after breast cancer surgery and its associations with sickness absence. *Psycho-Oncology* 2013;22(12):1755-62
9. Saboonchi F, Petersson LM, Wennman-Larsen A, Alexanderson K, Bränström R V, Vaez M. Changes in caseness of anxiety and depression in breast cancer patients during the first year following surgery: Patterns of transiency and severity of the distress response. *European Journal of Oncology Nursing.* 2014;18(6):598-604.
10. Wennman-Larsen A, Petersson LM, Saboonchi F, Alexanderson K, Vaez V. Is the development of breast symptoms consistent with the development of arm symptoms during the first two years after breast cancer surgery? *Oncology Nursing Forum,* 2015;42(2):145-55.
11. Bränström R, Petersson LM, Saboonchi F, Wennman-Larsen A, Alexanderson K. Physical activity following a breast cancer diagnose: Implications for self-rated

- health and cancer-related symptoms. *European Journal of Oncology Nursing*. 2015;19(6)680-5.
12. Saboonchi F, Petersson LM, Wennman-Larsen A, Alexanderson K, Vaez M. Trajectories of anxiety among women with breast cancer: A proxy for adjustment from acute to transitional survivorship. *Journal of Psychosocial Oncology*. 2015;33(6)603-19.
  13. Saboonchi F, Petersson LM, Alexanderson K, Bränström B, Wennman-Larsen A. Expecting the Best and Being Prepared for the Worst: Structure, Profiles and Two Years Temporal Stability of Dispositional Optimism in Women with Breast Cancer. *Psycho-Oncology*. 2016;25(8)957-63.
  14. Nilsson M, Saboonchi F, Alexanderson K, Mariann Olsson M, Wennman-Larsen A, Petersson LM. Changes in importance of work and vocational satisfaction during the two years after breast cancer surgery and factors associated with this. *Journal of Cancer Survivorship: Research and Practice*. 2016;10(3)564-72.
  15. Wennman-Larsen A, Nilsson M, Saboonchi F, Olsson M, Alexanderson K, Fornander T, Sandelin K, Petersson LM. Can breast cancer register data on recommended adjuvant treatment be used as a proxy for actually given treatment? *European Journal of Oncology Nursing*, 2016;22:1-7.
  16. Bondesson T, Petersson LM, Wennman-Larsen A, Alexanderson K, Kjeldgård L, Nilsson M. A study to examine the influence of health professionals' advice and support on work capacity and sick leave after breast cancer surgery. *Supportive Care in Cancer*. 2016;24(10)4141-8. DOI: 10.1007/s00520-016-3239-6
  17. Kvillemo P, Mittendorfer-Rutz E, Bränström R, Nilsson K, Alexanderson K. Sickness absence and disability pension following breast cancer diagnosis: a five-year nationwide cohort study. *Journal of Clinical Oncology*. 2017;26(3)673-84.
  18. Olsson M, Nilsson M, Fugl-Meyer K, Lena-Marie Petersson LM, Wennman-Larsen A, Kjeldgård L, Alexanderson K. Life satisfaction of women of working age shortly after breast cancer surgery. *Quality of Life Research*. 2017;26(3)673-84.
  19. Petersson LM, Vaez M, Nilsson M, Saboonchi F, Alexanderson K, Olsson M, Wennman-Larsen A. Sickness absence following breast cancer surgery; a two-year follow-up cohort study. *Scandinavian Journal of Caring Sciences*. 2018;32:715-24. doi: 10.1111/scs.12502.
  20. Söderman M, Friberg E, Alexanderson K, Wennman-Larsen A. Women's experiences of encounters with healthcare professionals' regarding work after breast-cancer surgery and associations with sickness absence; a two-year follow-up cohort study. *Supportive Care in Cancer*, 2019;27(4):1197-1206. doi: 10.1007/s00520-018-4453-1.
  21. Söderman M, Wennman-Larsen A, Alexanderson K, Friberg E. Experiences of positive encounters with healthcare professionals among women on long-term sickness absence due to breast cancer or due to other diagnoses: A nationwide survey. *BMC Public Health*. 2019;19(1):349.
  22. Chen L, Alexanderson K. Trajectories of sickness absence and disability pension in the two years before and three years after breast cancer: a Swedish longitudinal population-based cohort study. *Cancer*. 2020;126(12)2883-91. DOI: 10.1002/cncr.32820

23. Jakobsson S, Alexanderson K, Wennman-Larsen A, Charles T, Ringsberg K. Self-rated health over a two-year period after breast cancer surgery: prospective ratings and retrospective rating by means of a health-line. *Scandinavian Journal of Caring Sciences*. 2021(35):833-43. Doi: 10.1111/scs.12899.
24. Kvillemo P, Chen L, Bottai M, Frumento P, Almondo G, Mittendorfer-Rutz E, Friberg E, Alexanderson K. Sickness absence and disability pension among women with breast cancer: a population-based cohort study from Sweden. *BMC Public Health*. 2021(21):697. doi.org/10.1186/s12889-021-10703-1.
25. Wennman-Larsen A, Svärd V, Alexanderson K, Friberg E. Factors of decisive importance for being in work or not during two years after breast cancer surgery: content analysis of 462 women's open answers. *BMC Women's Health*. 2021:21, 332. <https://doi.org/10.1186/s12905-021-01468-1>

#### **Papers/master thesis**

1. Appelgren M. Hälsorelaterad livskvalitet, kroppsuppfattning och självkänsla hos kvinnor som nyligen opererats för bröstcancer: en jämförande studie mellan de som genomgått mastektomi eller mastektomi med direktrekonstruktion. Magisteruppsats i klinisk medicinsk vetenskap, Karolinska Institutet 2014.
2. Bondesson T. Återgång till arbete vid bröstcancer; hälso- och sjukvårdens bemötande och dess relation till aktuell arbetssituation. Magisteruppsats i omvårdnad, Karolinska Institutet, 2010
3. Müller M. Work ability of Swedish women after breast cancer surgery. Master thesis, Maastrich University. 2011
4. Mattson K. Bröstcanceropererade kvinnors upplevelse av bemötande och information från Försäkringskassan. Vidareutbildningskurs i försäkringsmedicin, Karolinska Institutet. 2013
5. Hazelzet, EM. Reasonable support works: a prospective cohort study on support and adjustments at work and its associations with work participation and long term sickness absence in employed breast cancer survivors. Master thesis. Maastricht University. 2015

#### **Some of the abstracts accepted for presentation at scientific conferences**

1. Nilsson M, Olsson M, Petersson L-M, Wennman-Larsen A, Alexanderson K. Patient's experiences of encounters with professionals regarding return-to-work issues following breast cancer surgery – a qualitative study. Conference on Advances in Health Care Science Research, 18–19/11 2009, Stockholm
2. Nilsson M, Olsson M, Petersson L-M, Wennman-Larsen A, Alexanderson K. Patient's experiences of encounters with professionals regarding return-to-work issues following breast cancer surgery – a qualitative study. 2<sup>nd</sup> Joint European Public Health Conference, 25-28/11 2009, Lodz, Polen.
3. Nilsson M, Olsson M, Petersson L-M, Wennman-Larsen A, Alexanderson K. Patient's experiences of encounters with professionals regarding return-to-work issues following breast cancer surgery – a qualitative study. International PsychoOncology Society (IPOS) 12th World Congress of Psycho-Oncology, 25-29/5 2010, Quebec

4. Bondesson T, Wennman-Larsen A, Petersson L-M. Hälso- och sjukvårdspersonals bemötande och dess relation till aktuell arbetssituation hos kvinnor opererade för bröstcancer. 9:e Nationella konferensen i cancervård, 30/9-1/10 2010, Gothenburg.
5. Petersson L-M, Wennman-Larsen A, Nilsson M, Olsson M, Alexanderson K. Work ability after breast cancer surgery – a prospective cohort study. Nordic Cancer Rehabilitation Symposium, 20-21/9 2010, Copenhagen
6. Wennman-Larsen A, Petersson L-M, Nilsson M, Bondesson T, Alexanderson K, et al. Return to work after breast cancer surgery? Impact of encounters with health-care professionals and social-insurance officers - a cohort study. Nordic Cancer Rehabilitation Symposium, 20-21/9 2010, Copenhagen
7. Nilsson M, Olsson M, Petersson L-M, Wennman-Larsen A, Alexanderson K. Women's actions, emotions, and reflections regarding work after breast cancer surgery– a focus group study. Nordic Cancer Rehabilitation Symposium, 20-21/9 2010, Copenhagen
8. Petersson L-M, Wennman-Larsen A, Alexanderson K. Return to work and sickness absence after breast cancer surgery – a prospective cohort study. 3<sup>rd</sup> Joint European Public Health Conference, 10-13/11 2010, Amsterdam
9. Petersson L-M, Nilsson M, Olsson M, Wennman-Larsen A, Alexanderson K. Women's actions, emotions, and reflections regarding work after breast cancer surgery– a focus group study. 3<sup>rd</sup> Joint European Public Health Conference, 10-13/11 2010, Amsterdam
10. Wennman-Larsen A, Petersson L-M, Alexanderson K. Return to work after breast cancer – an exploratory systematic literature review. 3<sup>rd</sup> Joint European Public Health Conference, 10-13/11 2010, Amsterdam
11. Wennman-Larsen A, Olsson M, Alexanderson K, Nilsson M, Petersson L-M. Arm Morbidity in Relation to Sickness Absence and Return to Work Short After Breast Cancer Surgery. 2011 European Multidisciplinary Cancer Congress. 22-27/9 2011, Stockholm; Sweden.
12. Nilsson M, Olsson M, Wennman-Larsen A, Petersson L-M, Alexanderson K. Actions, emotions and reflections regarding work after breast cancer surgery – a qualitative study. The 2011 European Multidisciplinary Cancer Congress, Stockholm, Sweden, 23-27/9 2011.
13. Alexanderson K. Breast cancer and return to work. The 11th European Multidisciplinary Cancer Congress, Stockholm, Sweden, 23-27 September 2011.
14. Alexanderson K. Cancer and health, disease, work capacity, and sickness absence – does this vary with social status? Keynote speech, European Cancer Rehabilitation & Survivorship Symposium, 16-18 September 2012, Copenhagen.
15. Wennman-Larsen A. Arm morbidity and sick leave among working women shortly after breast cancer surgery. International Psycho oncology society, COSA-IPOS 2012 Joint Conference, 13-15/11 2012, Brisbane, Australia.
16. Nilsson M. Workplace social support and adjustments early after breast cancer surgery in a cohort of Swedish women. 7th International Conference on Social Work in Health and Mental Health, Los Angeles, USA, June 23-27 2013.
17. Saboonchi F, Petersson L-M, Wennman-Larsen A, Alexanderson K, Vaez M. Trajectories of Anxiety as a Proxy for Psychological Adjustment in Breast

Cancer. The 28th Conference of the European Health Psychology Society, 26-30th August 2014, Innsbruck, Austria

18. Wennman-Larsen A., Alexanderson K, Friberg E. Factors of importance for work (dis)ability during the two years after breast cancer surgery? – a content analysis of women’s open answers. At the 22nd EUMASS Congress: Maastricht, Netherlands, October 2018
19. Söderman M, Friberg E, Alexanderson K, Wennman-Larsen A. Women’s experiences of encounters related to work with healthcare after breast cancer surgery and its association with sickness absence; a prospective two-year follow up. At the 22nd EUMASS Congress: Maastricht, Netherlands, October 2018

#### Invited speakers

1. Petersson L-M. Livssituationen för bröstcanceropererade kvinnor. Inbjuden talare vid “8:e nationella Konferensen i Cancervård”, 8-9/5 2008, Stockholm
2. Petersson L-M. Återgång i arbete efter bröstcancer. 22-23/10 2009, Västerås
3. Petersson L-M. Åter till arbetet – cancerrehabilitering och arbetsförmåga. Inbjuden talare vid ”Nationella konferensen om Cancerrehabilitering” 5-6/5 2011, Uppsala
4. Alexanderson K. Breast cancer and return to work. The 11th European Multidisciplinary Cancer Congress, Stockholm, Sweden, 23-27 September 2011.
5. Alexanderson K. Cancer and health, disease, work capacity, and sickness absence – does this vary with social status? European Cancer Rehabilitation & Survivorship Symposium, 16-18 September 2012, Copenhagen.
6. Petersson L-M. Livssituation och arbete efter bröstcanceroperation. Bröstsjuksköterskemöte, 26/4 2012.
7. Petersson L-M. Livssituation och arbete efter bröstcanceroperation. 10:e Nationella konferensen i Cancervård, 24-25/5 2012.
8. Nilsson, M. Yrkesarbete efter bröstcancer. Kuratorsdagarna, Svensk Kuratorsförening, 12-13/5 2014, Stockholm.
9. Nilsson, M. Return to work after breast cancer: Women’s experiences of encounters with different stakeholders. The 9<sup>th</sup> European Oncology Nursing Society Congress, 18-19/9 2014.