

# Identifying factors that predict the need for increased tissue removal during breast-conserving surgery for breast cancer, in order to reduce the need for a second surgery

|                                        |                                                   |                                                                                                   |
|----------------------------------------|---------------------------------------------------|---------------------------------------------------------------------------------------------------|
| <b>Submission date</b><br>11/11/2019   | <b>Recruitment status</b><br>No longer recruiting | <input type="checkbox"/> Prospectively registered<br><input type="checkbox"/> Protocol            |
| <b>Registration date</b><br>21/11/2019 | <b>Overall study status</b><br>Completed          | <input type="checkbox"/> Statistical analysis plan<br><input checked="" type="checkbox"/> Results |
| <b>Last Edited</b><br>01/12/2022       | <b>Condition category</b><br>Surgery              | <input type="checkbox"/> Individual participant data                                              |

## Plain English summary of protocol

### Background and study aims

Breast cancer affects many women across the globe each year. If the cancer is detected at an early stage most of the patients can be treated with breast-conserving surgery. This means that the surgeon then aims to remove only the tumor-bearing part of the breast as opposed to the whole breast. Patients treated with radiotherapy after initial breast-conserving surgery have been shown to have similar survival rates to patients where the whole breast is taken away. As improved surgical techniques have evolved, more patients can be operated on using breast-conserving surgery. After breast-conserving surgery there is a risk that the cancer-affected area is not be completely removed and the patient might need to undergo surgery again. This study aims to identify those patients at increased risk of needing a second operation due to incomplete removal of breast cancer after their first breast-conserving operation. If there are risk factors identifiable before the first surgical procedure, doctors could select the right patients for breast-conserving surgery in the future and identify patients at risk of having incomplete operations. This would also be helpful for the surgeon to know when to remove a larger part of the breast during the operation.

### Who can participate?

All female patients operated with breast-conserving surgery for pre-stages of breast cancer or breast cancer at Skåne University Hospital in Malmö, Sweden, during the years 2015-2016 will be included as study patients. For comparison, patients from Skåne University Hospital and Kristianstad Central Hospital in 2017 will be included.

### What does the study involve?

This study will only examine the patients' medical records from the surgical, pathology, operational and mammography departments. Patient and tumor characteristics such as age, height, weight, breast size and tumor size, location and type will be recorded. Patients in need of second surgery will then be compared to patients with complete first operations in order to identify patient and tumor characteristics associated with incomplete removal of the tumor. All

data will be compiled with no identifying information and no new information about the patients will be gathered.

What are the possible benefits and risks of participating?

There are no direct physical risks to the participants because the study uses only their medical records. The risks of participating in our study is mainly the potential intrusion on privacy from having data extracted from personal medical records. This intrusion is limited by the ethic committee's decision to only allow access to the medical records from the surgical clinic and from the time of the events and by defining which data can be collected. The study aims is that all women affected by breast cancer in the future will be benefited by the knowledge gained on risk factors for having to have a second operation and the possibility of more patients being successfully treated with breast-conserving surgery and a single surgery.

Where is the study run from?

Lund University (Sweden)

When is the study starting and how long is it expected to run for?

January 2017 to December 2017

Who is funding the study?

Lund University (Sweden) and Region Skåne (Sweden)

Who is the main contact?

Dr Julia Ellbrant, [Julia.Ellbrant@med.lu.se](mailto:Julia.Ellbrant@med.lu.se)

## Contact information

### Type(s)

Scientific

### Contact name

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## Additional identifiers

## Study information

Scientific Title

Pre-operative patient and tumor characteristics associated with increased risk of non-radical margins after breast-conserving surgery

### **Study objectives**

Preoperative patient and tumor characteristics can be associated with non-radical margins after breast-conserving surgery and therefore be pre-operatively identified.

### **Ethics approval required**

Old ethics approval format

### **Ethics approval(s)**

Approved 01/01/2018, Regional Ethical Review Board in Lund, Sweden Etikprövningsnämnden i Lund (Box 133, 22100, Lund, Sweden; +46 (0)104750800; [registrator@etikprovning.se](mailto:registrator@etikprovning.se)), Ref: Dnr 2018/622

### **Primary study design**

Observational

### **Study design**

Observational retrospective cross-sectional record review. Multicenter design with internal and external validation cohorts

### **Study type(s)**

Diagnostic

### **Health condition(s) or problem(s) studied**

Breast cancer patients operated on using breast-conserving surgery

### **Interventions**

All female patients operated with breast-conserving surgery for pre-stages of breast cancer or with breast cancer at Skåne University Hospital in Malmö, Sweden during the years 2015-2016 will be included as study patients. For comparison, patients from Malmö and Kristianstad Central Hospital, Sweden, in 2017 will be included as a validation population. The patients' medical records from the surgical, pathology, operational and mammography departments are collected extracting pre-defined factors. Patient and tumor characteristics such as age, height, weight, breast size and tumor size, location and type will be recorded. Patients will be analysed divided into two groups, radical and not radical at first surgery. Patients in need of second surgery will then be compared to patients with complete first operations in search of patient and tumor characteristics associated with incomplete removal of the tumor. All data will be compiled de-identified and no new information about the patients are gathered other than existing information already known by the patients.

### **Intervention Type**

Procedure/Surgery

### **Primary outcome(s)**

All measured retrospectively and extracted from medical records:

1. Number of patients with non-radical breast conserving surgery after first procedure
2. Preoperative tumor and patient characteristics such as age, BMI, breast side and size, screening detection, palpability of tumor, location in breast, distance from mamilla, lymph node

palpability and status, previous breast operations, radiographic characteristics and size, biopsy results

**Key secondary outcome(s)**

All measured retrospectively and extracted from medical records:

Post-operative tumor and patient characteristics such as method of operation, indication method, pathology results from tumor and axilla, weight of excised lump and operation time

**Completion date**

30/12/2017

## Eligibility

**Key inclusion criteria**

Female patients operated with breast-conserving surgery with a final diagnosis of in situ or invasive cancer at Skåne University Hospital 2015-2016 for study cohort or 2017 for validation cohort or at Kristianstad hospital in 2017 for external validation

**Participant type(s)**

Patient

**Healthy volunteers allowed**

No

**Age group**

All

**Sex**

Female

**Key exclusion criteria**

1. Male gender
2. Primary operation not coded as breast-conserving surgery
3. Neoadjuvant treatment
4. Benign final pathology result

**Date of first enrolment**

01/01/2015

**Date of final enrolment**

31/12/2017

## Locations

**Countries of recruitment**

Sweden

**Study participating centre**

**Skåne University Hospital, Surgical clinic**

Jan Waldenströmsgata 11 A

Malmö

Sweden

205 02

**Study participating centre****Kristianstad Hospital, Surgical clinic**

Jan Hedlundsväg 5

Kristianstad

Sweden

291 33

## Sponsor information

**Organisation**

Lund University

**ROR**

<https://ror.org/012a77v79>

## Funder(s)

**Funder type**

University/education

**Funder Name**

Lunds Universitet

**Alternative Name(s)**

Lund University, Universitas Lundensis, Universitas Gothorum Carolina, Royal Caroline Academy, Regia Academia Carolina, Lund University | Lund, Sweden | LU, Lunds universitet, LU

**Funding Body Type**

Government organisation

**Funding Body Subtype**

Universities (academic only)

**Location**

Sweden

**Funder Name**  
Region Skåne

## Results and Publications

### Individual participant data (IPD) sharing plan

The exact data sharing plans for the current study are unknown and will be made available at a later date.

### IPD sharing plan summary

Data sharing statement to be made available at a later date

### Study outputs

| Output type                      | Details                                               | Date created | Date added | Peer reviewed? | Patient-facing? |
|----------------------------------|-------------------------------------------------------|--------------|------------|----------------|-----------------|
| <a href="#">Results article</a>  |                                                       | 06/09/2021   | 01/12/2022 | Yes            | No              |
| <a href="#">Abstract results</a> | Presented at 2018 San Antonio Breast Cancer Symposium | 01/02/2019   | 03/09/2021 | No             | No              |