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GoBreast II protocol: A partially randomised patient preference, superiority trial comparing autologous and implant-based breast reconstruction

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Abstract

Introduction

Although breast reconstruction is an integral part of breast cancer treatment, there is little high-quality evidence to indicate which method is the most effective. Randomized controlled trials (RCT) are generally thought to provide the most solid scientific evidence, but there are significant barriers to conducting RCTs in breast reconstruction, making both recruitment and achieving unbiased and generalisable results a challenge. The objective of this study is to compare implant-based and autologous breast reconstruction in non-radiated patients. Moreover, the study aims to improve the evidence for trial decision-making in breast reconstruction.

Methods and analysis

The study design partially randomised patient preference trial (RPPT) might be a way to overcome the aforementioned challenges. In the present study, patients who consent to randomisation will be randomised to implant-based and autologous breast reconstruction, whereas patients with strong preferences will be able to choose method. The study is designed as a superiority trial based on BREAST-Q and 124 participants will be randomised. In the preference cohort, patients will be included until 62 participants have selected the least popular alternative. Follow-up will be 60 months. Embedded qualitative studies and within-trial economic evaluation will be performed. The primary outcome is patient-reported breast-specific quality of life/satisfaction, and the secondary outcomes are complications, factors affecting satisfaction, and cost-effectiveness.

Ethics and dissemination

The study has been approved by the Swedish Ethical Review Authority (2023-04754-01).

Results will be published and presented in peer-reviewed scientific journals and meetings.

Trial registration: ClinicalTrials.Gov identifier NCT06195865

Funding: Swedish Cancer Society (grant number 23 3240 S).

Strengths and limitations of this study

- This protocol introduces a novel study design to compare different breast reconstruction methods, partially randomised patient preference trial (RPPT), to increase internal and external validity of the results.
- The protocol includes studies within a trial (SWATs) to further explore the research methodology for future use in breast cancer patients.
- The outcomes measures of the protocol include outcomes important to patients and professionals and for society, such as patient reported outcomes, complications, and cost-effectiveness.
- Conceptual risks of the protocol include difficulty in recruiting participants, especially to the randomized arm, and a low adherence and retention.
- The protocol includes patients from a single country which might limit the generalization to different health care systems.

Introduction

Background and rationale

Breast reconstruction is an integral part of modern breast cancer treatment[1 2]. Nevertheless, evidence for the effectiveness of breast reconstruction methods is lacking with respect to increasing quality of life and achieving high patient satisfaction, with a low complication rate and societal economic costs. The low evidence is reflected in the varying guidelines for breast reconstruction and unequal access to different methods that have been seen in a European study[3], as well as in a report published by the Swedish Breast Cancer Association [4]. Techniques for breast reconstruction can roughly be divided into two categories: *autologous* and *implant-based* techniques. Three systematic reviews [5-7] have concluded that patients seem to have a higher breast-related quality of life when reconstructed with autologous techniques compared with implant-based techniques. However, most of the included studies were retrospective, non-randomised, did not correct for other factors that might affect satisfaction, and had a short follow-up. Moreover, few high-quality studies compare long-term cost-effectiveness [8] and the long-term need for revisions and corrections and donor-site consequences. All of these factors are essential to create evidence-based guidelines, prioritize usage of health-care resources and to give the patients information on which they can base decisions of breast reconstruction. There are no ongoing trials registered in ClinicalTrials.gov comparing different categories of breast reconstruction technique head-to-head*.

Randomized controlled trials (RCT) are generally thought to provide the most solid scientific evidence for treatment effects. However, there are barriers to conducting RCTs in breast reconstruction, making both recruitment and achieving unbiased and generalisable

* https://clinicaltrials.gov/search?cond=breast%20reconstruction (search performed 22.07.2023)

results a challenge [9 10]. Firstly, an RCT requires that there is solid uncertainty about which method achieves the best results. In the case of breast reconstruction, the operating surgeon must not prefer one method to another (*theoretical equipoise*) [11] as this could result in both biased recruitment as well as biased outcomes if the included patients receive biased pre- and post-operative information [9]. The patient must also not have pre-formed ideas and clear preferences regarding the different methods (*principle of indifference)* [11] based on, for example, other patients, patient organizations, and the media, as this also affects the recruitment and the results. Patients' preferences can affect the external validity if a standard treatment, for example implant-based breast reconstruction in non-radiated patients[12], is compared to an alternative treatment, for example autologous reconstruction, as only patients who prefer autologous reconstruction are likely to accept randomisation. Patients' preferences could also reduce internal validity as randomisation to the (non-) preferred strategy could affect both adherence to the protocol (*reluctant acquiescence phenomenon*) [13] and outcome. All these factors would lead to results that are not generalisable to the clinical population. This risk of bias and low internal and external validity illustrates why an RCT can be an inappropriate study design when comparing different categories of breast reconstruction.

A PubMed search on breast AND reconstruction, limited to RCTs, yields 419 results (10.07.2023) (*submitted manuscript*). One-hundred and nine of them are RCTs concerning some aspect of breast reconstruction. The majority compared surgical variation within the same category of breast reconstruction technique, for example one vs. two stages or mesh vs. no mesh in implant-based breast reconstruction and preoperative imaging vs. no preoperative imaging in autologous breast reconstruction. Only four studies compare different categories of breast reconstruction techniques head-to-head [14-17] and they all illustrate the aforementioned challenges with RCTs in breast reconstruction. For example, in the RCT performed in our department, the Gothenburg Breast Reconstitution trial (GoBreast) [17 18], pre-intervention drop-

outs rates after randomisation varied between 12.5 and 23 per cent in different groups, due to either the patient's or surgeon's preferences.

The study design partially randomised patient preference trial (RPPT) is an approach to diminish the impact of patients' preferences, facilitate recruitment, increase patient centricity, decrease the risk of excluding large patient groups, and make the results more generalisable to the clinical population, when preference sensitive interventions are compared[19]. In an RPPT, patients with a clear preference are treated accordingly and patients without a distinct preference are randomised in the traditional way. The RPPT design enables a more efficient inclusion of participants, and a clinically more representative study population, while maintaining a high external and internal validity [19]. GoBreast II will mark the first use of an RPPT design to evaluate breast reconstruction methods.

Choice of comparators

There is a myriad of different surgical options in breast reconstruction, such as different meshes and implants, as well as different pedicled or free flaps, but there are two main categories: implant-based or autologous breast reconstruction. The two main categories are compared in this study.

Research hypotheses

It is hypothesised that:

- patients are more satisfied with the reconstructed breast/s when an autologous deep inferior epigastric perforator (DIEP) flap is performed.
- albeit a 'simpler procedure', implant-based reconstruction entails a higher total number of operations and revisions long-term, compared to autologous DIEP-flap.

- albeit a procedure that is more costly for the healthcare system when it is performed, an autologous DIEP-flap is more cost-effective for society in the long-term perspective, due to long-term effects and consequences of implants.

Study objectives

The main overall purpose of a breast reconstruction is to increase the woman's quality of life, both physically and psychosocially. Therefore, the primary objective/outcome is to compare the two methods regarding patient-reported breast-specific quality of life and satisfaction. These measures are also part of the core outcome set for breast reconstruction developed by patients and professionals [20].

The secondary objectives are to compare the two methods regarding complications, unplanned operations, corrections, cost-effectiveness, and factors that might affect the primary outcome. Other secondary objectives are to improve the evidence for trial decision-making in breast reconstruction to improve the methodological design and process of future studies, by means of a study within a trial (SWAT) [21].

Trial design

GoBreast II is a partially randomised patient preference trial (RPPT) with a superiority framework. Participants that accept randomisation will be allocated to one of the two methods. Participants that do not accept randomisation will be operated with their preferred method. Thus, the study, has two cohorts: one randomised and one patient preference (Figure 1). The trial is a single-centre study conducted at a university hospital in Sweden. It has embedded qualitative and health economic research questions.

Methods and analysis

Reporting and pre-registration

This protocol is reported in accordance with the Standard Protocol Items: Recommendations for Interventional Trials (SPIRIT) statement 2013 [22], including the SPIRIT-PRO extension [23]. The trial was registered at (ClinicalTrials.Gov identifier NCT06195865). All items from the World Health Organization Trial Registration Data Set have been registered. This is the first version of the protocol (25.08.2023).

Study setting

The study will be performed at Sahlgrenska University Hospital in Gothenburg, Sweden, where the Department of Plastic Surgery currently performs about 350 breast reconstructions yearly, both in the immediate and the delayed setting. In the catchment area of Sahlgrenska University Hospital, all patients diagnosed with breast cancer who have had or will receive a mastectomy and are considering a breast reconstruction are referred to this department. Among the referrals, potentially eligible participants will be invited to consider participation in the trial. According to the current Swedish guidelines [12], non-irradiated patients are offered mainly implant-based breast reconstruction and irradiated patients autologous techniques. The Swedish healthcare system is a publicly funded welfare-type healthcare system, with a strong emphasis on equal access.

Population

Recruitment and inclusion and exclusion criteria

Among the referrals to the department, potentially eligible participants will be invited to consider participation in the trial. Inclusion and exclusion criteria are given in Figure 2.

Sample size

The study is designed as a superiority trial based on the BREAST-Q domain *Satisfaction with the breast/s*[24-26]. The clinically meaningful difference in BREAST-Q was set to 10 points. There are no anchor-based minimal important differences (MIDs) published for BREAST-Q, but the distribution-based MID is 4 for Satisfaction with the breast/s [27]. The standard deviation was set to 18, as calculated according to US norms [28]. If power is set to 0.80, alfa to 0.05, the ratio of case to control as 1 and a 20% drop out rate is expected, 62 patients are needed in each group[†]. In the randomised cohort 124 participants will be randomised 1:1. In the preference cohort patients will be included until 62 participants have selected the least popular alternative (Figure 3). This will result in an overall trial cohort with a minimum of 124 participants in each arm and enough participants in the subgroups *randomised* and *patient preference* to allow for analyses of differences.

Uniform preoperative counselling

Uniform counselling is crucial in the RPPT design [19]. All patients eligible for inclusion in the study will be counselled using the *PEGASUS (Patients' Expectations and Goals of reconstruction. Assisting Shared Understanding of Surgery)* tool [29 30] to make the decision of whether they want a breast reconstruction. The tool is used to form a basis for a patient-

[†] https://riskcalc.org/samplesize/

centred dialogue around breast reconstruction. An implementation study using PEGASUS in a Swedish context is currently being performed in our department. Following the PEGASUS session, an appointment with a plastic surgeon, skilled in both implant-based and autologous breast reconstruction, will be scheduled for more technical counselling regarding the two reconstructive options. The information will be standardised for the study.

Interventions

Mastectomy

The mastectomies will be performed by general surgeons (breast surgeons). In case of an immediate breast reconstruction a skin sparing mastectomy will be performed. The nipple-areolar complex (NAC) will be preserved if it is oncologically safe. In case of an immediate breast reconstruction, a Wise pattern skin resection will be made in ptotic, otherwise a submammary incision, or vertical incision if the NAC has to be removed, will be performed. Delayed breast reconstruction will be performed following simple mastectomy.

Autologous breast reconstruction: DIEP-flap

All DIEP-flaps are performed by plastic surgeons according to the standard of care of the department. In summary, it is performed as a cutaneo-adipose flap, without muscle, and if possible anastomosed to the internal thoracic artery and vein. If needed, the superficial epigastric vein is anastomosed to the cephalic vein through a small incision in the axillary fold. If possible, the flap is buried, when an immediate breast reconstruction is performed. In delayed breast reconstruction, a skin island is inserted between the submammary fold and the old mastectomy scar.

Implant-based breast reconstruction

All implant-based breast reconstructions are performed by plastic surgeons according to standard of care of the department. In immediate breast reconstruction, a sub-pectoral pocket is created and the inferior-medial and inferior attachments of the major pectoral muscle are released. If a permanent implant (CPG®, Mentor Worldwide LLC, CA, USA) is used a synthetic TIGR® Matrix Surgical Mesh (Novus Scientific, Uppsala, Sweden) [31 32] is sutured to the inferior border of the pectoral muscle and to the chest wall corresponding to the inframammary fold and lateral border of the implant pocket; hence a dual plane approach is applied. *The Gothenburg TIGR/Veritas Study* [32-34] comparing a biological and a synthetic mesh in immediate breast reconstruction demonstrated that the synthetic mesh is superior to the biological regarding complications and is equivalent regarding patient satisfaction. Therefore, the synthetic mesh has become a standard of care and will be used in the present study. If a tissue expander (CPX™4 or Siltex® Becker™, Mentor Worldwide LLC, CA, USA) is used, a m. serratus pocket is created to block the expander laterally to achieve a muscle covered device. A temporary expander is exchanged for a permanent implant about three months after the initial operation.

Criteria for discontinuing or modifying allocated interventions for a given trial participant

Trial participants have the right to withdraw from the study at any time, without any consequence. Before the reconstruction, patients can change from the randomised cohort to the preference cohort, should they change their wishes. Their data will then be analysed according to their change. If the patient regrets her choice of cohort after her reconstruction, she will be included in the analysis of her original cohort, but her change of preference noted.

Concomitant care and follow-up visits

Treatment of the patients will be conducted by standard of care regardless of trial participation. Routine clinical assessment will be performed in accordance with the standard of care. No extra trial-specific clinical follow-up assessments will be performed.

Randomised patients and randomisation processes

Participants that accept randomisation will be randomised in a 1:1 ratio, using simple randomisation, with equal probability, to either autologous or implant-based reconstruction (Figure 3). The mechanism of implementing the allocation sequence is sealed envelope. Allocation sequence will be ensured as the sequence will be concealed for participants, surgeons, and research staff until the participant has been included in the randomised arm, which takes place after all inclusion and exclusion criteria have been checked, the PEGASUS intervention performed, and baseline clinical evaluation completed at the appointment with the plastic surgeon. All patients giving consent to participate in the randomised cohort that fulfils inclusion criteria will be randomised. Randomisation will be conducted without any influence of the surgeons/researchers. The intervention nature does not allow blinding.

In the patient preference cohort, patients will be included until the minimum targeted sample size has been reached, that is until the minimum number of participants has selected the least popular alternative (Figure 3).

Outcomes

Primary outcome: Satisfaction with the breast/s and breast-specific quality of life

BREAST-Q reconstruction module (version 1) is a validated disease-specific patient-reported instrument that measures outcome after breast reconstruction, breast-related quality of life, and patient satisfaction [24-26]. The following domains will be analysed: Satisfaction with breast/s, Satisfaction with outcome, Psychosocial well-being chest, Sexual well-being, Physical well-being chest, and Satisfaction with information. The patient rates all items in the domains on 3-, 4-, and 5-point Likert-scales. A raw score, that is converted to a score 0-100, is calculated for each domain. A higher score indicates a greater satisfaction or better quality of life. Normative data have been described for a Swedish population [35] and it will be used for reference values. A further validation of the Swedish version is ongoing in our department.

Secondary outcomes

All adverse events are classified according to the Clavien–Dindo Classification (CDC) of surgical complications and Comprehensive Complication Index (CCI) scores [36], as well as specific complications. CDC and CCI are currently being validated for breast reconstruction in our department. All participating surgeons will be given a list of study specific definitions of *complications and corrections/revisions. Satisfaction with the donor-site* will be measured with BREAST-Q donor site domains, expectations with BREAST-Q expectations domain [37 38], *symptoms of depression and anxiety* with Hospital Anxiety and Depression Scale (HADS) [39 40], *body image* with the Appearance Schemas Inventory-revised (ASI-R) [41]and the Multidimensional Body-Self Relation Questionnaire (MBSRQ) [42], *generic quality of life* with EuroQoL-5 dimensions (EQ-5D-3L) [43], and the *patient's goals with the reconstruction* will be documented using PEGASUS [19].

The BREAST-Q donor site module has two domains (Satisfaction with abdomen and Physical well-being: abdomen) and the expectations module has 6 domains (Support from Medical Staff, Pain: Postop, Coping, Appearance: Clothes, Sensation: Breasts, and Function: Abdomen) and they are scored as described under 'primary outcomes'. HADS [40] measures symptoms of anxiety and depression in somatically ill patients on a Likert-scale. For both domains, scores of less than 7 indicate non-cases, whereas scores of 8-10 indicate possible cases and scores of >10 indicate probable cases [39 44 45]. The ASI-R measures body image investment, how important the individual believes their physical appearance is for her/his own self-worth, on Likert scales and has two domains: Self-Evaluative Salience and Motivational Salience. The scores for the two domains are calculated as the mean of the items for each subscale. The total ASI-R score is the mean of all 20 items. A higher score indicates greater body image investment [46]. The MBSRQ measures appearance related aspects of body image, on Likert scales, and has four domains: Appearance Evaluation, Appearance Orientation, Body Areas Satisfaction, and Overweight Preoccupation [42]. *Euroqol-5 dimensions (EQ-5D)* has 5-dimensions: mobility, self-care, usual activities, pain/discomfort, and anxiety/depression. The patient rates his/her health on a 3-level Likert scale and a score is calculated, where 1 indicates "perfect health" and 0 "death". EQ-5D-3L The instrument also comprises a visual analogue scale (VAS) where the patient marks his/her current health state, from 0 ("worst imaginable") to 100 ("best imaginable") [43 47]. The PEGASUS instrument is described under 'Uniform preoperative counselling'.

Study Within A Trial (SWAT) [21]

The RPPT design will be assessed quantitatively using a SWAT[21]. This considers rate of patients fulfilling the criteria and agreeing to participate in the study, time it takes to recruit the target number in each group, rate of patients who accept randomisation, and differences

between the randomisation and preference cohort regarding demographic factors as well as pre-operative satisfaction with breasts, expectations, body-image, symptoms of depression and anxiety, and generic quality of life. To obtain insights into attitudes towards and experiences of the process of the study, semi-structured interviews will be conducted concerning issues such as how the process can be ameliorated to increase recruitment, retention, and follow-up rates of questionnaires, and how the participation information leaflet should be improved to maximize recruitment. Trial participants, participating surgeons and research nurses will be interviewed. Embedded qualitative studies will be used to investigate the participants' thoughts, attitudes and experiences regarding:

- *The choice of breast reconstruction and the choice of reconstructive method.* Participants will be recruited from the preference cohort. Longitudinal – the same participants will be interviewed at allocation and 12 months after the reconstruction.
- *What makes a participant very satisfied or very dissatisfied.* Participants will be recruited from both cohorts among women who scored high/low, compared to the mean, on BREAST-Q outcome and satisfaction with breast/s.
- *SWAT*[21]*: How the participant experienced the trial process, how it can be ameliorated to increase recruitment, retention, and follow-up rates of questionnaires and how participation information leaflet should be designed/written to maximize recruitment.* Different participants from both cohorts are interviewed at allocation, 3 and 12 months to explore if there are different themes at different time points.

Qualitative approaches and research paradigms will be chosen based on type of question studied. A purposive criterion-sampling technique will be used at the time points described in Figure 4. Interviews will follow semi-structured interview guides designed for each research question. Participants will be recruited until saturation has been achieved.

Health economic analysis

A within-trial economic evaluation will be performed 36 months post-allocation. The primary economic analysis will be a cost-effectiveness analysis presenting incremental cost-effectiveness ratios (ICERs). Effects will be expressed in terms of Quality-Adjusted Life-Years (QALYs), where health-related quality of life will be assessed based on EQ-5D-3L using the UK Dolan tariff as well as a Swedish population-based tariff [47 48]. A societal perspective will be adopted that includes healthcare costs and broader societal economic costs from sick leave based on the human capital approach. The healthcare costs will be based on impatient, outpatient and primary care resource use and be collected from the controller of our departments (actual costs for the care given excluding any costs driven by the study protocols) and from VEGA, the healthcare use database in Region Västra Götaland. Information on sick leave will be collected from the Swedish Social Insurance Agency (*Försäkringskassan*[‡]) and information on the average income in different age groups from Statistics Sweden (*Statistikmyndigheten*, SCB[§]). ICERs and incremental net benefit (monetary/health) statistics will be assessed to compare the two interventions. The uncertainty will be assessed by non-parametric bootstrapping and visualized by means of cost-effectiveness planes and cost-effectiveness acceptability curves.

Data collection and participant timeline

The participant timeline for the trial is shown in Figure 4.

[‡] https://www.forsakringskassan.se/english
[§] https://www.scb.se/en/

Statistical methods

A detailed statistical analysis plan (SAP) will be drafted early in the trial and finalised before primary outcome analysis. All analysis will be performed on an intention-to-treat basis (ITT) and per-protocol analysis (PP) as sensitivity analysis. Descriptive data will be given as appropriate according to type of data and if it is skewed or not. This will also form the basis for statistical tests chosen to compare groups. Sensitivity analysis will be done were missing data in predictors will be handled by multiple imputation methods[49]. Regression analysis, preceded by collinearity check of potential predictors and performed to allow for correction for possible confounders. Residuals for each regression analysis will be checked for the assumptions of normal distribution and constant deviation along the predicted values. Sub-group analyses will be performed for the randomised and the preference cohort and for timing of reconstruction (immediate/delayed reconstruction). The statistical analysis will adhere to the SISOQOL framework [50]. All tests will be two-tailed and a p-value of ≤ 0.05 will be considered to indicate a statistical significance.

Adherence

Trial participants will be given their scheduled follow-up appointment at hospital discharge, with the following scheduled by post. A reminder text-message will be sent prior to the appointments to improve adherence. Patient reported outcome measure instruments will be given to the patient when they are allocated to treatment and then sent by mail at the subsequent time-points. Two reminders will be sent to the patients if a questionnaire reply is not received by the hospital. Questionnaires will be given to the participants at allocation and then sent by mail, with up to two reminders, at the remaining time-points, with reminders to ensure continued participation.

Retention

Any trial participant lost to follow-up will be contacted to complete the 3, 12, 36, and 60-months follow-up. The trialists will make every reasonable effort to follow participants for the entire study period. If available, a reason for withdrawal will be documented.

Data management, confidentiality, and access to data

Arrangements for data handling and processing of personal data are detailed in the data management plan (DMP). All data will be handled according to the General Data Protection Regulation 2016/679 (GDPR), confidentiality offered by Swedish law (Offentlighets- och sekretesslagen (2009:400)), the ethical permit, and guidelines of the Swedish Authority for Privacy Protection (Integritetsskyddsmyndigheten, IMY**) and of the data controller and sponsor Region Västra Götaland (VGR). A data protection officer has been appointed by VGR. The lawfulness of data processing is a necessity for the performance of a task carried out in the public interest or in the exercise of official authority vested in the controller (art 6, GDPR). Data and meta-data are collected and stored on paper within secure locations, in a locked cabinet approved for storage of class 3 and 4 information. Working files and continuous documentation are collected using VGR-licensed computer software on password protected computers maintained by VGR. Storage and back-up are performed in accordance with the guidelines of VGR. The filing system is registered in accordance with guidelines of VGR. Data provenance is documented through codes (pseudonymised). Coding lists are stored and sealed according to the local routine of the Department of Plastic Surgery. All documentation and data will be archived 25 years in the VGR repository according to VGR guidelines. Clinical trial participant-level data (IPD) will not be shared due to confidentiality. To ensure data quality during the life of the study it is monitored as described in the DMP.

Monitoring

** https://www.imy.se/en/

VGR and the University of Gothenburg will undertake the role of sponsors in accordance with local guidelines. VGR will act as data controller. Delegated responsibilities will be assigned to the principal investigator, participating researchers, and research nurses. The full co-application team and clinical staff responsible for the day-to-day management of the trial will form the trial management group, which is responsible for monitoring recruitment and retention. No separate data monitoring committee is planned for this single-centre study.

Safety and harms

The trial interventions are identical to the usual clinical practice. The only difference is that non-irradiated patients are offered autologous reconstruction, an option usually reserved for irradiated patients. Autologous breast reconstruction has been performed in our department since 1979 [51] and we currently perform around 120 per year in irradiated patients. Similarly, questionnaires can be sent to patients in the usual clinical practice to monitor their progress. Therefore, the risks of participating in the trial are considered similar to those of usual clinical practice. Adverse events are defined as any undesirable event occurring to the patient during the study period. All possible adverse events will be documented on clinical report forms (CRFs) and in the medical charts according to standard procedures for clinical trials and Good Clinical Practice. All implants will be registered in the Swedish breast implant registry (BRIMP)[††].

The Swedish health care service covers all the health care needs of the inhabitants and thus of the trial participants during and after the trial. Patients enrolled in the study are covered by the standard insurance and indemnity of the Swedish public health care service (*Löf regionernas ömsesidiga försäkringsbolag*[‡‡]).

[††] https://brimp.registercentrum.se
[‡‡] https://lof.se/language/engelska-english

Research ethics approval

The study has been approved by the Swedish Ethical Review Authority[§§] (2023-04754-01). Any protocol amendments or ancillary studies will be vetted by the Swedish Ethical Review Authority.

Consent or assent

Participants that are eligible for inclusion will be invited and given written and oral standardised information and have the chance to ask any questions about the trial. Patients who consent verbally to participation will be asked to sign a written consent form before allocation. A similar, but separate, consent process will be performed for participants asked for inclusion in the qualitative studies and in the SWAT[21]. Participants are free to withdraw at any time and for any reason, without consequence. Participants that withdraw from follow-up questionnaires may continue to consent for data collection from CRFs and clinical records. Data collected prior to withdrawal may be retained and used in the analyses if the participants consent to it.

Declaration of interests

The principal investigator and participating researchers have no financial or other competing interests to declare.

Dissemination policy

[§§] https://etikprovningsmyndigheten.se/en/

Results will be published in peer reviewed scientific journals and presented at peer-reviewed scientific meetings. Researchers and trialists that have made a substantive contribution in accordance with the Vancouver recommendations for authorships and fulfil the criteria and requirements of the International Committee of Medical Journal Editors (IMCJ)*** will be listed as authors for the publications. Those who do not fulfil the criteria will not be granted authorship. The CRediT (Contributor Roles Taxonomy)††† will be used to declare the authors' roles for every manuscript. Professional medical writers will not be employed.

Patient and public involvement

Official representatives of the Breast Cancer Association have participated in the planning of the study and are co-authors of this protocol (CL, AU, KS). The group will be collaborators in the study, throughout its course, and in the analysis of the results and writing of the manuscripts.

A qualitative study embedded in the first GoBreast study (*manuscript under writing*) has demonstrated that the patients scoring low on satisfaction with breast on BREAST-Q often attribute their low satisfaction to a feeling of not being involved in the decision around breast reconstruction and that they have not been allowed to make their own informed decisions. The lack of patient involvement and adequate pre-operative information was also clearly seen in a report released by The Swedish Breast Cancer Association [4]. This led our department to implement use of the PEGASUS instrument[29]. The instrument has been incorporated in the protocol and will form a basis for a patient-centred dialogue and emphasise the possibility to make a choice according to preferences, if the patient has any.

*** https://www.icmje.org/recommendations/browse/roles-and-responsibilities/defining-the-role-of-authors-and-contributors.html
††††† https://credit.niso.org

The primary and secondary outcomes of the study are based on the published core outcomes set for breast reconstruction, which has been developed by patients and professionals. All outcomes considered important by patients in that previous study have been incorporated into our study.

Funding

The study is funded by the Swedish Cancer Society (grant number 23 3240 S).

Discussion

GoBreast II will mark the first use of an RPPT design to evaluate breast reconstruction methods. The trial builds on GoBreast, which randomised radiated patients to a DIEP-flap or latissimus dorsi (LD)-flap with an implant and non-radiated patients to a thoracodorsal flap and implant or implant-based breast reconstruction in two stages [18 52]. The study illustrated the described difficulties with conducting an RCT in breast reconstruction.

Considerations regarding the RPPT design and methodological significance

Development of the RPPT design has the potential to become a standard when preference sensitive treatment options are compared in all disciplines and types of cancer clinical therapy studies. If successful in this trial, we plan to use it to study fundamental questions like immediate vs. delayed breast reconstruction, for which there is very little scientific evidence and thus far no ethically acceptable designs. Through SWATs, the design will also give us information about how many women prefer the two options and how many women accept randomisation, which will help in planning resource usage in breast reconstruction as well as the design of future studies.

Considerations regarding the included population and equipoise

In the present study, only non-radiated patients will be included. Non-radiated patients is the only group in which there is a theoretical equipoise in the reconstructive community, as it is well known that implants and other foreign materials and radiotherapy do not marry well [53]. Therefore, radiated patients are not included in the present study.

In recent years, the choice of breast reconstruction method might have been increasingly affected by professional conflicts and the individual surgeon's competence rather than the patient's preferences and suitability for different methods [54]. The main conflict is which specialty should perform the reconstruction. In some units, general surgeons specialised in breast surgery, with skills mainly in implant-based breast reconstruction, have assumed responsibility for implant-based breast reconstruction and the primary discussion regarding breast reconstruction. Only patients actively requesting autologous breast reconstruction are referred to a plastic surgeon, who usually has a broader competence in reconstructive methods. The conflict might also have led to that many plastic surgeons actively promote autologous breast reconstruction as this is their best possibility to have patients referred. Hence, the information about different options the patient receives might be biased by the competence and interests of the surgeon [55-57], limiting a shared decision-making process which is essential in preference sensitive interventions [58-62]. The lack of standardised information and access to different options is also reflected in a report published by the Swedish Breast Cancer Association [4]. In the interest of the patients, the results of a RPPT comparing implant-based and autologous breast reconstruction in non-radiated could create a

basis for a standard on what information patients should receive when facing choices of reconstructive breast surgery and ultimately equal access to care.

Considerations regarding the choice of outcomes

A core outcome set has been developed for breast reconstruction [20]. Core items for patients as well as professionals include major complications, unplanned surgery for any reason, donor site problems/morbidity, normality, quality of life, and women's cosmetic satisfaction [20]. In addition, professionals consider implant-related complications and flap-related complications to be core items, and patients believe self-esteem, emotional well-being, and physical well-being are important outcomes [20]. The core outcomes set forms the basis for the outcomes included in the present study. However, the outcome set does not give any recommendations regarding how the different outcomes should be measured.

Our department conducts a project (*ValPlast*) [ClinicalTrials.gov identifier NCT0523389] where patient-reported outcome instruments and complication classifications are validated for use in Swedish for breast reconstruction and where Swedish norms are created and projects on how complications and other factors affect the outcomes in breast reconstruction [63 64] [ClinicalTrials.gov identifier NCT04714463]. The results form the basis for the choices of instrument in the present study.

Considerations regarding the health economic analysis

A systematic review on health economics in breast reconstruction has demonstrated that there is no high-level evidence, regarding cost-effectiveness, to support recommendations and decisions in breast reconstruction[8]. The review[8] identified several methodological issues, such as a lack of a societal perspective, usage of standardised and validated methods to evaluate

benefits, and modelling approaches not compatible with the reconstructive reality. The identified methodological weaknesses have formed the basis of the design of the present study.

Risks with the study

The most prominent operational risk in the project is that autologous reconstruction inherently requires more healthcare resources than implant-based reconstruction. Currently, one autologous reconstruction can be performed a day per operation theatre, while three implant-based reconstructions can be performed. An autologous reconstruction also requires surgeons with skills in microsurgery. Through training fellowships, we have invested in the necessary specialist competence and currently have five surgeons performing autologous reconstruction, allowing for a considerable expansion. We are prepared to reach the target in the randomized groups if there should be an increase in autologous reconstructions. Despite performing about 350-400 reconstructions per year in our department, conceptual risks include difficulties in recruiting participants, especially to the randomized arm, and a low adherence and retention. We expect that it will be easier to recruit when participants know that they will be treated according to their preferences.

Significance

The study could provide evidence of which reconstruction method is superior to increase women's breast-related quality of life and is the most cost-effective for society. This can facilitate the making of guidelines for breast reconstruction in healthcare. Evidence of the cost-effectiveness of alternative treatments can also be used to influence how politicians

allocate budget resources so that more women have access to the best methods for breast reconstruction.

Knowledge about women's experiences of choices and the reconstructive process can improve shared decision-making in breast reconstruction and serve as a basis for standardising information and the breast cancer processes and multidisciplinary collaboration regarding reconstruction. The lack of standardised information and access to different options has been illustrated in a report published by the Swedish breast cancer association[‡‡‡]. Our qualitative studies also have the potential to identify knowledge gaps that should be explored in future studies.

Appendices

SPIRIT check list

SPIRIT-Outcomes 2022 Extension items checklist

Informed consent material (in Swedish).

Abbreviations

ASA American Society of Anesthesiologists classification

ASI-R the Appearance Schemas Inventory-revised

BMI Body Mass Index

BR breast reconstruction

BRIMP the Swedish breast implant registry

CCI Comprehensive Complication Index

CDC Clavien–Dindo Classification

CRediT Contributor Roles Taxonomy

[‡‡‡] https://brostcancerforbundet.se/wt/documents/918/Bröstcancerrapport2021final3.pdf

CRF clinical report form

DIEP deep inferior epigastric perforator flap

DMP data management plan

EQ5D EuroQoL-5 dimensions

GDPR General Data Protection Regulation 2016/679

GoBreast the Gothenburg Breast Reconstitution trial

HADS Hospital Anxiety and Depression Scale

ICER incremental cost-effectiveness ratio

IMJC the International Committee of Medical Journal Editors

IPD individual participant data

ITT intention-to-treat

LD latissimus dorsi flap

MBRSQ the Multidimensional Body-Self Relation Questionnaire

MID minimal important difference

NAC nipple-areolar complex

PEGASUS Patients' Expectations and Goals of reconstruction. Assisting Shared Understanding of Surgery

PP per-protocol

QALY quality-adjusted life year

RCT randomized controlled trial

RPPT partially randomised patient preference trial

SAP statistical analysis plan

SPIRIT Standard Protocol Items: Recommendations for Interventional Trials

SWAT study within a trial

t timepoint

VGR Region Västra Götaland

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Authors' contributions

EH: Conceptualisation, methodology, investigation, writing (original draft), visualisation, project administration, and resources. JL: Methodology, writing (reviewing and editing), and project administration. CL: Methodology, writing (reviewing and editing), and patient representative. AU: Methodology, writing (reviewing and editing), and patient representative. KS: Methodology, writing (reviewing and editing), and patient representative. AG-E: Methodology (statistics), investigation, writing (reviewing and editing). MS: Methodology (health economics), investigation, writing (reviewing and editing). AP: Methodology, investigation, writing (reviewing and editing), and project administration. All authors read and approved the final manuscript.

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Competing interest statement

None declared.

Patient and public involvement

Official representatives of the Breast Cancer Association have participated in the planning of the study and are co-authors of this protocol (CL, AU, KS).

Figure legends

Figure 1. The partially randomised patient preference trial design (RPPT) and allocation of the patients. Figure by Niclas Löfgren, Department of Plastic and Reconstructive Surgery, Sahlgrenska University Hospital.

Figure 2. Inclusion and exclusion criteria.

ASA American Society of Anesthesiologists classification

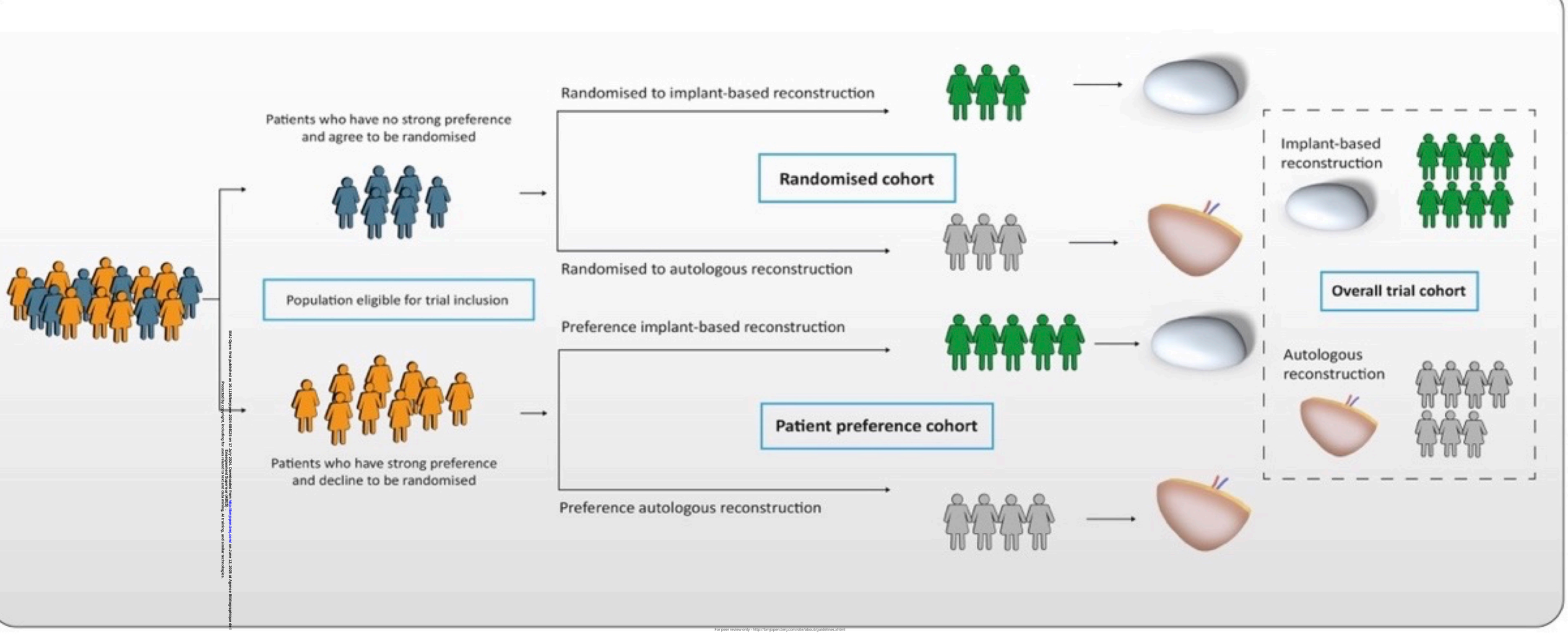
BMI Body Mass Index

DIEP deep inferior epigastric perforator flap

Figure 3. Sample sizes in the randomised and patient preference cohort.

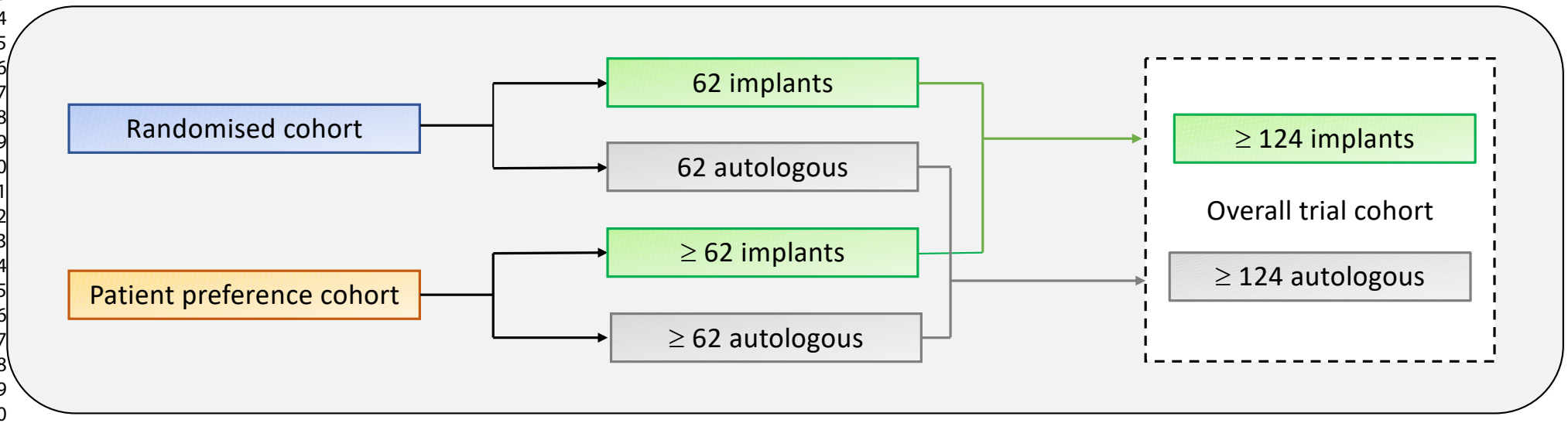
Figure 4. Trial flowchart for the participants

ASI-R the Appearance Schemas Inventory-revised
BR breast reconstruction
CRF clinical report form
EQ5D EuroQoL-5 dimensions
HADS Hospital Anxiety and Depression Scale
MBRSQ the Multidimensional Body-Self Relation Questionnaire
PEGASUS Patients' Expectations and Goals of reconstruction. Assisting Shared Understanding of Surgery
SWAT study within a trial
t timepoint



Inclusion criteria	Exclusion criteria
• Female. • Age ≥ 18 years of age. • ASA (American Society of Anaesthesiologists physical status classification) 1-2. • Patient must have had or be scheduled for a mastectomy. • Ability to give informed consent. • Ability to communicate in Swedish.	• ASA ≥ 3 • BMI > 30 kg/m^2 • Smoking[1]. • Previous radiotherapy to the breast in question. • Radiotherapy is expected post-operatively. • Locally advanced breast cancer • Metastasised breast cancer • Comorbidity and/or drugs that affect wound healing. • Unstable psychiatric co-morbidity • Abdominal scaring/chest scaring[2].

1. Immediate breast reconstruction: to stop smoking when they are informed about the diagnosis and abstain from smoking at least 6 weeks postop. Delayed breast reconstruction: abstain from smoking 6 weeks pre- and 6 weeks postoperatively.
2. Making a DIEP-flap impossible/an implant-based reconstruction unsuitable



	STUDY PERIOD								
	Enrolment		Allocation	Post-allocation					Close-out
TIMEPOINT**	$-t_1$	$-t_2$	0	t_{op}	$t_{3\ m}$	$t_{12\ m}$	$t_{24\ m}$	$t_{36\ m}$	$t_{60\ m}$
ENROLMENT:									
Eligibility screen	X								
Informed consent	X								
PEGASUS		X							
Plastic surgeon visit – Allocation			X						
INTERVENTIONS:									
Autologous BR				X					
Implant-based BR				X		X			
ASSESSMENTS:									
CRF baseline characteristics and demographics			X						
CRF PEGASUS	X								
CRF operation				X					
CRF complications, corrections/revisions				←	—	—	—	—	→
CRF clinical characteristics					X	X			
Expectations			X						
BREAST-Q			X		X	X	X	X	X
EQ5D			X		X	X	X	X	X
HADS			X		X	X	X	X	X
Body image: ASI-R and MBSRQ			X		X	X	X	X	X
Costs and resource use								X	X
Qualitative studies/SWAT			X		X	X			

Information till forskningspersoner

Vi vill fråga dig om du vill delta i ett forskningsprojekt. I det här dokumentet får du information om projektet och om vad det innebär att delta.

Vad är det för ett projekt och varför vill ni att jag ska delta?

I detta forskningsprojekt önskar vi jämföra två metoder för bröstrekonstruktion, återskapande av bröst, vid cancer/hög risk för cancer: kroppsegen och implantatbaserad teknik. Du tillfrågas då ditt/dina bröst planeras opereras bort/har opererats bort.

Enligt nuvarande riktlinjer erbjuds kroppsegen rekonstruktion främst till kvinnor som har fått strålbehandling då kroppsegen bröstrekonstruktion är en resurskrävande operation och det är de som fått strålbehandling som har störst behov av tillförsel av icke-strålad vävnad till området. Kvinnor som inte har fått strålbehandling erbjuds enligt riktlinjerna främst implantatbaserad rekonstruktion.

I detta projekt önskar vi jämföra om kvinnor som inte har fått strålbehandling blir mest nöjda med kroppsegen eller implantatbaserad rekonstruktion, s.k. patientrapporterat utfall. De två metoderna kommer också att jämföras med avseende på komplikationer och kostnadseffektivitet på lång sikt.

Den högsta vetenskapliga bevisnivå anser man att man får då man gör en s.k. randomiserad studie där studiedeltagaren lottas till ett av de två behandlingsalternativen och studien kommer därför ha denna design. Eftersom bröstrekonstruktion är en s.k. preferenssensitiv åtgärd där många kvinnor har starka önskemål om att bli opererad med en viss metod kommer det vara möjligt att avstå lottning och själv välja metod om du önskar det. Datan från denna studie kommer även att användas för att studera den vetenskapliga metoden att låta vissa deltagare välja och lotta andra deltagare samt om det finns skillnader mellan de två grupperna, t.ex. vad gäller demografi eller mål med rekonstruktion.

Forskningshuvudman för projektet är Verksamhet plastikkirurgi, Sahlgrenska universitetssjukhuset, Västra Götalandsregionen och Göteborgs universitet. Med forskningshuvudman menas den organisation som är ansvarig för projektet. Ansökan är godkänd av Etikprövningsmyndigheten, diarienummer för prövningen hos Etikprövningsmyndigheten är 2023-04754-01

Hur går projektet till?

Ett deltagande innebär att du antingen lottas till kroppsegen eller implantatbaserad rekonstruktion (lottad grupp) eller själv välja vilken metod du vill bli opererad med, om du har starka önskemål kring metod (preferensgrupp). Innan du lottas/väljer metod kommer du

att få träffa först sjuksköterska eller psykolog vid ett besök för att diskutera dina mål med en rekonstruktion och sedan plastikkirurg vid ett andra besök för att diskutera olika tekniker. Dina mål med rekonstruktionen kommer att dokumenteras enligt en modell som heter PEGASUS.

Innan och efter operationen (3, 12, 24, 36 och 60 månader efter) kommer du att få svara på enkäter angående din nöjdhet med operationen, resultatet och vården samt hur du mår i övrigt. Det tar ungefär 20 minuter att fylla i enkäterna vid vart tillfälle. ***Det är mycket viktigt att du kan tänka dig ta dig tiden att fylla i enkäterna vid alla tillfällen, för att vi ska kunna få ett pålitligt resultat.*** Förutom lottning/val av teknik kommer vården att vara exakt den samma som om du inte hade deltagit i studien. Studien innebär inga extra besök på sjukhus efter operationen, än de som du skulle ha gått på om du inte deltar i studien.

Möjliga följder och risker med att delta i projektet

Om du deltar i projektet kommer du att få samma behandling som om du inte hade deltagit i projektet, med undantag att du som icke-strålad kan komma att opereras med kroppsegen i stället för implantatbaserad rekonstruktion. Både kroppsegen och implantatbaserad bröstrekonstruktion är rutinbehandling som utförs varje vecka på sjukhuset och som Sahlgrenska har utfört sedan 1970-talet.

Då projektet innebär att du svarar på enkäter innan och vid 5 tillfällen efter operationen innebär det att du kommer att bidra med din tid till forskningsprojektet, utan att få ekonomisk ersättning för detta. Att svara på enkäterna skulle också kunna innebära att du påminns om tidigare cancerbehandling/cancerriskreducerande behandling, vilket kan vara känslomässigt obehagligt. Om du önskar ytterligare hjälp att bearbeta dina upplevelser är du välkommen att höra av dig till plastikkirurgen, så lotsar vi dig rätt i sjukvårdssystemet.

Vad händer med mina uppgifter?

Projektet kommer att samla in och registrera information om dig.

Enkäterna kommer att kodas och förvaras inlåsta. De kommer att arkiveras i 25 år. Kodlistan kommer att förvaras inlåst och separerad från enkäterna. Du kommer antingen få enkäterna i samband med mottagningsbesök eller hemskickade till dig med ett frankerat svarskuvert.

För att kunna tolka enkätsvaren kommer vi att samla in data från din journal. Detta inkluderar detaljer kring tidigare sjukdomar, den/de operation/er du genomgått samt om orsakerna till att du opererats, dina mål med rekonstruktionen, ditt hälsotillstånd vid operationstillfället samt information kring vårdförloppet (t.ex. antal besök på mottagningen och recept på smärtstillande).

För att kunna undersöka kostnadseffektivitet kommer vi också inhämta data från Västra Götalands databas kring annan vård som du har haft behov av under perioden, t.ex. från din vårdcentral eller från andra kliniker, samt från Försäkringskassan angående din sjukskrivningslängd och ytterligare behov av sjukskrivning.

Informationen kommer bara vara tillgänglig för forskningspersonerna och förvaras i kodad form, så de inte kan härledas till dig. Uppgifterna skyddas som journalhandling

Den rättsliga grunden för databehandlingen enligt EU:s dataskyddsförordning är att den är nödvändig för att utföra en uppgift av allmänt intresse och som ett led i Västra Götalands myndighetsutövning, dvs. uppgiften att utföra forskning (artikel 6 e).

Dina svar och dina resultat kommer att behandlas så att inte obehöriga kan ta del av dem.

Ansvarig för dina personuppgifter är Verksamhet plastikkirurgi, Sahlgrenska universitetssjukhuset, Västra Götalandsregionen. Enligt EU:s dataskyddsförordning har du rätt att kostnadsfritt få ta del av de uppgifter om dig som hanteras i projektet, och vid behov få eventuella fel rättade. Du kan också begära att uppgifter om dig raderas samt att behandlingen av dina personuppgifter begränsas. Rätten till radering och till begränsning av behandling av personuppgifter gäller dock inte när uppgifterna är nödvändiga för den aktuella forskningen. Om du vill ta del av uppgifterna ska du kontakta huvudansvarig forskare Emma Hansson, Gröna Stråket 8, 413 45 Göteborg. Tel. 031-3423700. Dataskyddsombud nås på sahlgrenska.universitetssjukhuset.dso@vgregion.se . Om du är missnöjd med hur dina personuppgifter behandlas har du rätt att ge in klagomål till Integritetsskyddsmyndigheten, som är tillsynsmyndighet.

Hur får jag information om resultatet av projektet?

Resultatet kommer att presenteras på gruppnivå i vetenskapliga artiklar. Om du önskar kopia på den data som finns kring dig kan du begära kopia av dina enkätsvar från projektansvariga (kontaktuppgifter i slutet på denna information).

Försäkring och ersättning

Sedvanlig patientskadeförsäkring gäller. Ingen ersättning utgår för deltagande i projektet.

Deltagandet är frivilligt

Ditt deltagande är frivilligt och du kan när som helst välja att avbryta deltagandet. Om du väljer att inte delta eller vill avbryta ditt deltagande behöver du inte uppge varför, och det kommer inte heller att påverka din framtida vård eller behandling.

Om du vill avbryta ditt deltagande ska du kontakta den ansvariga för projektet (se nedan).

Ansvariga för projektet

Kroppsegen jämfört med implantatbaserad bröstrekonstruktion - en delvis lottad patientpreferensstudie med 5 års uppföljning (GoBreast II)

Randomiserad kohort och preferenskohort v. 231009

Ansvariga för projektet är FOU-sjuksköterska Susanne Meyer, susanne.meyer@vgregion.se Lektor Anna Paganini, specialistsjuksköterska, med dr. anna.paganini@vgregion.se, prof. Emma Hansson, öl, emma.em.hansson@vgregion.se Alla tre nås på: Verksamhet plastikkirurgi, Sahlgrenska universitetssjukhuset, Gröna Stråket 8, 413 45 Göteborg. Tel. 031-3423700 .

Samtycke till att delta i projektet

Jag har fått muntlig och/eller skriftlig information om studien och har haft möjlighet att ställa frågor. Jag får behålla den skriftliga informationen.

☐ Jag samtycker till att delta i projektet *Kroppsegen jämfört med implantatbaserad bröstrekonstruktion - en delvis lottad patientpreferensstudie med 5 års uppföljning (GoBreast II)*
Randomiserad kohort och preferenskohort

Plats och datum	Underskrift
	Namnförtydligande

Information till forskningspersoner

Vi vill fråga dig om du vill delta i ett forskningsprojekt. I det här dokumentet får du information om projektet och om vad det innebär att delta.

Vad är det för ett projekt och varför vill ni att jag ska delta?

I detta forskningsprojekt önskar vi undersöka dina upplevelser och erfarenheter kring att delta i GoBreast II, där du antingen har lottats eller valt mellan två metoder för bröstrekonstruktion. Denna studiedesign har tidigare aldrig använts för att studera olika s.k. preferenssensitiva åtgärder inom bröstrekonstruktion och syftet med denna del av projektet är att förfina metodologin inför framtida studier av preferenssensitiva åtgärder inom bröstcancervården i stort. Du tillfrågas om deltagande då du deltar i studien GoBreast II.

Forskningshuvudman för projektet är Västra Götalandsregionen. Med forskningshuvudman menas den organisation som är ansvarig för projektet. Ansökan är godkänd av Etikprövningsmyndigheten, diarienummer för prövningen hos Etikprövningsmyndigheten är 2023-04754-01

Hur går projektet till?

Ett deltagande innebär att du kommer att kallas för en intervju med frågor kring din upplevelse av att delta i GoBreast II samt vad du tycker bör ändras/kan förbättras. Intervjun kommer att utföras av en psykolog/psykologstudent eller en sjuksköterska eller en läkare.

Intervjun sker vid ett tillfälle och tar cirka 2 timmar och genomförs där du själv önskar (sjukhuset/hemma hos dig/på din arbetsplats) eller online (Zoom eller Teams).

Studiedeltagande innebär inga andra åtaganden från din sida och kommer inte påverka den vård eller det bemötande du får inom sjukvården

Möjliga följder och risker med att delta i projektet

Deltagande i projektet i studien skulle kunna leda till att gamla känslor kring bröstcancer och dess behandling väcks till liv. I fall det visar sig att du behöver ytterligare hjälp att bearbeta dina upplevelser kommer de forskningsansvariga att ombesörja att du remitteras till rätt vårdinstans för att få sådan hjälp.

Vad händer med mina uppgifter?

Projektet kommer att samla in och registrera information om dig.

Intervjuerna kommer att spelas in och sedan skrivas ut (transkriberas) anonymt. Texterna kommer att förvars kodade och inlåsta. Kodlistan kommer att förvaras inlåst och separerad

från utskrift från intervjuer. Texterna och inspelningarna kommer att arkiveras i 25 år. Informationen kommer bara vara tillgänglig för forskningspersonerna och förvaras i kodad form, så den inte kan härledas till dig. Uppgifterna skyddas som journalhandling. För att kunna tolka svaren kommer vi även att använda sedan data kring din behandling den/de operation/er du genomgått samt om orsakerna till att du opererats, ditt hälsotillstånd (t.ex. tobaksanvändning, vikt och längd) och ålder vid operationstillfället, som tidigare samlats in inom ramen för GoBreast II.

Dina svar och dina resultat kommer att behandlas så att inte obehöriga kan ta del av dem. Ansvarig för dina personuppgifter (personuppgiftsansvarig) är Västra Götalandsregionen. Enligt EU:s dataskyddsförordning har du rätt att kostnadsfritt få ta del av de uppgifter om dig som hanteras i projektet, och vid behov få eventuella fel rättade. Du kan också begära att uppgifter om dig raderas samt att behandlingen av dina personuppgifter begränsas. Rätten till radering och till begränsning av behandling av personuppgifter gäller dock inte när uppgifterna är nödvändiga för den aktuella forskningen. Om du vill ta del av uppgifterna ska du kontakta huvudansvarig forskare Emma Hansson, Gröna Stråket 8, 413 45 Göteborg. Tel. 031-3423700. Dataskyddsombud nås på sahlgrenska.universitetssjukhuset.dso@vgregion.se . Om du är missnöjd med hur dina personuppgifter behandlas har du rätt att ge in klagomål till Integritetsskyddsmyndigheten, som är tillsynsmyndighet.

Hur får jag information om resultatet av projektet?

Resultatet kommer att presenteras på gruppnivå i vetenskapliga artiklar. Om du önskar kopia på din utskriva intervju kontaktar du forskningssjuksköterskan (kontaktuppgifter sist i detta dokument).

Försäkring och ersättning

Sedvanlig patientskadeförsäkring gäller. Ingen ersättning utgår för deltagande i projektet.

Deltagandet är frivilligt

Ditt deltagande är frivilligt och du kan när som helst välja att avbryta deltagandet. Om du väljer att inte delta eller vill avbryta ditt deltagande behöver du inte uppge varför, och det kommer inte heller att påverka din framtida vård eller behandling.

Om du vill avbryta ditt deltagande ska du kontakta den ansvariga för projektet (se nedan).

Ansvariga för projektet

Ansvariga för projektet är FOU-sjuksköterska Susanne Meyer, susanne.meyer@vgregion.se Lektor Anna Paganini, specialistsjuksköterska, med dr. anna.paganini@vgregion.se, prof. Emma Hansson, öl, emma.em.hansson@vgregion.se Alla tre nås på: Verksamhet

plastikkirurgi, Sahlgrenska universitetssjukhuset, Gröna Stråket 8, 413 45 Göteborg. Tel. 031-3423700 .

Samtycke till att delta i projektet

Jag har fått muntlig och/eller skriftlig information om studien och har haft möjlighet att ställa frågor. Jag får behålla den skriftliga informationen.

☐ Jag samtycker till att delta i projektet *Kroppsegen jämfört med implantatbaserad bröstrekonstruktion - en delvis lottad patientpreferensstudie med 5 års uppföljning (GoBreast II)*
Intervju kring metodologin lotta/välja (SWAT

Plats och datum	Underskrift
	Namnförtydligande

Kroppsegen jämfört med implantatbaserad bröstrekonstruktion - en delvis lottad patientpreferensstudie med 5 års uppföljning (GoBreast II)

Intervju kring forskningsmetodologin lotta/välja - personal (SWAT)

v. 231009

Information till forskningspersoner

Vi vill fråga dig om du vill delta i ett forskningsprojekt. I det här dokumentet får du information om projektet och om vad det innebär att delta.

Vad är det för ett projekt och varför vill ni att jag ska delta?

I detta forskningsprojekt önskar vi undersöka dina upplevelser och erfarenheter kring att rekrytera, operera och ta hand om patienter i GoBreast II-studien. Denna studiedesign har tidigare aldrig använts för att studera olika s.k. preferenssensitiva åtgärder inom bröstrekonstruktion och syftet med denna del av projektet är att förfina metodologin inför framtida studier av preferenssensitiva åtgärder inom bröstcancervården i stort. Du tillfrågas om deltagande då du har rekryterat/opererat/tagit hand om patienter inom ramen för studien GoBreast II.

Forskningshuvudman för projektet är Västra Götalandsregionen. Med forskningshuvudman menas den organisation som är ansvarig för projektet. Ansökan är godkänd av Etikprövningsmyndigheten, diarienummer för prövningen hos Etikprövningsmyndigheten är 2023-04754-01.

Hur går projektet till?

Ett deltagande innebär att du kommer att kallas för en intervju med frågor kring din upplevelse av att delta i GoBreast II samt vad du tycker bör ändras/kan förbättras. Intervjun kommer att utföras av en psykolog/psykologstudent eller en sjuksköterska eller en läkare.

Intervjun sker vid ett tillfälle och tar cirka 2 timmar och genomförs på sjukhuset eller online (Zoom eller Teams).

Möjliga följder och risker med att delta i projektet

Deltagandet i projektet innebär inga risker för dig som sjukvårdspersonal.

Vad händer med mina uppgifter?

Projektet kommer att samla in och registrera information om dig.

Intervjuerna kommer att spelas in och sedan skrivas ut (transkriberas) anonymt. Texterna kommer att förvars kodade och inlåsta. Kodlistan kommer att förvaras inlåst och separerad från utskrift från intervjuer. Texterna och inspelningarna kommer att arkiveras i 25 år. Informationen kommer bara vara tillgänglig för forskningspersonerna och förvaras i kodad form, så den inte kan härledas till dig. Uppgifterna skyddas som journalhandling. För att

kunna tolka svaren kommer vi även att samla information kring vilken profession du tillhör samt vilken roll du haft i GoBreast II.

Dina svar och dina resultat kommer att behandlas så att inte obehöriga kan ta del av dem.

Ansvarig för dina personuppgifter (personuppgiftsansvarig) är Västra Götalandsregionen. Enligt EU:s dataskyddsförordning har du rätt att kostnadsfritt få ta del av de uppgifter om dig som hanteras i projektet, och vid behov få eventuella fel rättade. Du kan också begära att uppgifter om dig raderas samt att behandlingen av dina personuppgifter begränsas. Rätten till radering och till begränsning av behandling av personuppgifter gäller dock inte när uppgifterna är nödvändiga för den aktuella forskningen. Om du vill ta del av uppgifterna ska du kontakta huvudansvarig forskare Emma Hansson, Gröna Stråket 8, 413 45 Göteborg. Tel. 031-3423700. Dataskyddsombud nås på sahlgrenska.universitetssjukhuset.dso@vgregion.se . Om du är missnöjd med hur dina personuppgifter behandlas har du rätt att ge in klagomål till Integritetsskyddsmyndigheten, som är tillsynsmyndighet.

Hur får jag information om resultatet av projektet?

Resultatet kommer att presenteras på gruppnivå i vetenskapliga artiklar. Om du önskar kopia på din utskriva intervju kontaktar du forskningssjuksköterskan (kontaktuppgifter sist i detta dokument).

Försäkring och ersättning

Sedvanlig patientskadeförsäkring gäller. Ingen ersättning utgår för deltagande i projektet.

Deltagandet är frivilligt

Ditt deltagande är frivilligt och du kan när som helst välja att avbryta deltagandet. Om du väljer att inte delta eller vill avbryta ditt deltagande behöver du inte uppge varför.

Om du vill avbryta ditt deltagande ska du kontakta den ansvariga för projektet (se nedan).

Ansvariga för projektet

Ansvariga för projektet är FOU-sjuksköterska Susanne Meyer, susanne.meyer@vgregion.se Lektor Anna Paganini, specialistsjuksköterska, med dr. anna.paganini@vgregion.se, prof. Emma Hansson, öl, emma.em.hansson@vgregion.se Alla tre nås på: Verksamhet plastikkirurgi, Sahlgrenska universitetssjukhuset, Gröna Stråket 8, 413 45 Göteborg. Tel. 031-3423700 .

Samtycke till att delta i projektet

Jag har fått muntlig och/eller skriftlig information om studien och har haft möjlighet att ställa frågor. Jag får behålla den skriftliga informationen.

☐ Jag samtycker till att delta i projektet *Kroppsegen jämfört med implantatbaserad bröstrekonstruktion - en delvis lottad patientpreferensstudie med 5 års uppföljning (GoBreast II)*
Intervju kring metodologin lotta/välja personal (SWAT)

Plats och datum	Underskrift
	Namnförtydligande

Information till forskningspersoner

Vi vill fråga dig om du vill delta i ett forskningsprojekt. I det här dokumentet får du information om projektet och om vad det innebär att delta.

Vad är det för ett projekt och varför vill ni att jag ska delta?

I detta forskningsprojekt önskar vi undersöka vad det är som att man blir väldigt nöjd eller väldigt missnöjd med en bröstrekonstruktion. Syftet är förbättra omhändertagandet av framtida patienter som önskar bröstrekonstruktion. Du tillfrågas om deltagande då du deltar i studien GoBreast II och har poängsatt ditt resultat som väldigt bra/väldigt dåligt.

Forskningshuvudman för projektet är Västra Götalandsregionen . Med forskningshuvudman menas den organisation som är ansvarig för projektet. Ansökan är godkänd av Etikprövningsmyndigheten, diarienummer för prövningen hos Etikprövningsmyndigheten är 2023-04754-01

Hur går projektet till?

Ett deltagande innebär att du kommer att kallas för en intervju med frågor kring vad som gjort dig väldigt nöjd/väldigt missnöjd. Intervjun kommer att utföras av en psykolog/psykologstudent, en sjuksköterska eller en läkare.

Intervjun sker vid ett tillfälle och tar cirka 2 timmar och genomförs där du själv önskar (sjukhuset/hemma hos dig/på din arbetsplats) eller online (Zoom eller Teams).

Studiedeltagande innebär inga andra åtaganden från din sida och kommer inte påverka den vård eller det bemötande du får inom sjukvården

Möjliga följder och risker med att delta i projektet

Deltagande i projektet i studien skulle kunna leda till att gamla känslor kring bröstcancer och dess behandling väcks till liv. I fall det visar sig att du behöver ytterligare hjälp att bearbeta dina upplevelser kommer de forskningsansvariga att ombesörja att du remitteras till rätt vårdinstans för att få sådan hjälp.

Vad händer med mina uppgifter?

Projektet kommer att samla in och registrera information om dig.

Intervjuerna kommer att spelas in och sedan skrivas ut (transkriberas) anonymt. Texterna kommer att förvars kodade och inlåsta. Kodlistan kommer att förvaras inlåst och separerad från utskrift från intervjuer. Texterna och inspelningarna kommer att arkiveras i 25 år.

Informationen kommer bara vara tillgänglig för forskningspersonerna och förvaras i kodad form, så de inte kan härledas till dig. Uppgifterna skyddas som journalhandling. För att kunna tolka svaren kommer vi även att använda sedan data kring din behandling den/de operation/er du genomgått samt om orsakerna till att du opererats, ditt hälsotillstånd (t.ex. tobaksanvändning, vikt och längd), ålder vid operationstillfället och den lista över mål med rekonstruktion du kom fram till innan operationen (PEGASUS), som tidigare samlats in inom ramen för GoBreast II.

Dina svar och dina resultat kommer att behandlas så att inte obehöriga kan ta del av dem.

Ansvarig för dina personuppgifter (personuppgiftsansansvarig) är Västra Götalandsregionen. Enligt EU:s dataskyddsförordning har du rätt att kostnadsfritt få ta del av de uppgifter om dig som hanteras i projektet, och vid behov få eventuella fel rättade. Du kan också begära att uppgifter om dig raderas samt att behandlingen av dina personuppgifter begränsas. Rätten till radering och till begränsning av behandling av personuppgifter gäller dock inte när uppgifterna är nödvändiga för den aktuella forskningen. Om du vill ta del av uppgifterna ska du kontakta huvudansvarig forskare Emma Hansson, Gröna Stråket 8, 413 45 Göteborg. Tel. 031-3423700. Dataskyddsombud nås på sahlgrenska.universitetssjukhuset.dso@vgregion.se . Om du är missnöjd med hur dina personuppgifter behandlas har du rätt att ge in klagomål till Integritetsskyddsmyndigheten, som är tillsynsmyndighet.

Hur får jag information om resultatet av projektet?

Resultatet kommer att presenteras på gruppnivå i vetenskapliga artiklar. Om du önskar kopia på din utskriva intervju kontaktar du forskningssjuksköterskan (kontaktuppgifter sist i detta dokument).

Försäkring och ersättning

Sedvanlig patientskadeförsäkring gäller. Ingen ersättning utgår för deltagande i projektet.

Deltagandet är frivilligt

Ditt deltagande är frivilligt och du kan när som helst välja att avbryta deltagandet. Om du väljer att inte delta eller vill avbryta ditt deltagande behöver du inte uppge varför, och det kommer inte heller att påverka din framtida vård eller behandling.

Om du vill avbryta ditt deltagande ska du kontakta den ansvariga för projektet (se nedan).

Ansvariga för projektet

Ansvariga för projektet är FOU-sjuksköterska Susanne Meyer, susanne.meyer@vgregion.se
Lektor Anna Paganini, specialistsjuksköterska, med dr. anna.paganini@vgregion.se, prof.

Kroppsegen jämfört med implantatbaserad bröstrekonstruktion - en delvis lottad patientpreferensstudie med 5 års uppföljning (GoBreast II)

Intervju kring nöjdhet/missnöjdhet v. 231009

Emma Hansson, öl, emma.em.hansson@vgregion.se Alla tre nås på: Verksamhet plastikkirurgi, Sahlgrenska universitetssjukhuset, Gröna Stråket 8, 413 45 Göteborg. Tel. 031-3423700.

Samtycke till att delta i projektet

Jag har fått muntlig och/eller skriftlig information om studien och har haft möjlighet att ställa frågor. Jag får behålla den skriftliga informationen.

☐ Jag samtycker till att delta i projektet *Kroppsegen jämfört med implantatbaserad bröstrekonstruktion - en delvis lottad patientpreferensstudie med 5 års uppföljning (GoBreast II)*
Intervju kring nöjdhet/missnöjdhet

Plats och datum	Underskrift
	Namnförtydligande

Information till forskningspersoner

Vi vill fråga dig om du vill delta i ett forskningsprojekt. I det här dokumentet får du information om projektet och om vad det innebär att delta.

Vad är det för ett projekt och varför vill ni att jag ska delta?

I detta forskningsprojekt önskar vi undersöka dina upplevelser och erfarenheter kring val av metod vid bröstrekonstruktion. Syftet är att få mer kunskap kring hur man resonerar när man väljer metod och hur vi skulle kunna förbättra denna process för framtida patienter. Du tillfrågas om deltagande då du deltar i gruppen som själv valt metod i studien GoBreast II (preferensgruppen).

Forskningshuvudman för projektet är Västra Götalandsregionen. Med forskningshuvudman menas den organisation som är ansvarig för projektet. Ansökan är godkänd av Etikprövningsmyndigheten, diarienummer för prövningen hos Etikprövningsmyndigheten är 2023-04754-01.

Hur går projektet till?

Ett deltagande innebär att du kommer att kallas för en intervju med frågor kring ditt val av bröstrekonstruktionsmetod. Intervjun kommer att utföras av en psykolog/psykologstudent eller en sjuksköterska eller en läkare.

Intervjun sker vid två tillfällen (en gång i anslutning till att du gjort valet och en gång cirka ett år senare) och tar cirka 2 timmar per intervju och genomförs där du själv önskar (sjukhuset/hemma hos dig/på din arbetsplats) eller online (Zoom eller Teams).

Studiedeltagande innebär inga andra åtaganden från din sida och kommer inte påverka den vård eller det bemötande du får inom sjukvården

Möjliga följder och risker med att delta i projektet

Deltagande i projektet i studien skulle kunna leda till att gamla känslor kring bröstcancer och dess behandling väcks till liv. I fall det visar sig att du behöver ytterligare hjälp att bearbeta dina upplevelser kommer de forskningsansvariga att ombesörja att du remitteras till rätt vårdinstans för att få sådan hjälp.

Vad händer med mina uppgifter?

Projektet kommer att samla in och registrera information om dig.

Intervjuerna kommer att spelas in och sedan skrivas ut (transkriberas) anonymt. Texterna kommer att förvars kodade och inlåsta. Kodlistan kommer att förvaras inlåst och separerad från utskrift från intervjuer. Texterna och inspelningarna kommer att arkiveras i 25 år.

Informationen kommer bara vara tillgänglig för forskningspersonerna och förvaras i kodad form, så den inte kan härledas till dig. Uppgifterna skyddas som journalhandling. För att kunna tolka svaren kommer vi även att använda sedan data kring din behandling den/de operation/er du genomgått samt om orsakerna till att du opererats, ditt hälsotillstånd (t.ex. tobaksanvändning, vikt och längd), ålder vid operationstillfället och den lista över mål med rekonstruktion du kom fram till innan operationen (PEGASUS), som tidigare samlats in inom ramen för GoBreast II.

Dina svar och dina resultat kommer att behandlas så att inte obehöriga kan ta del av dem.

Ansvarig för dina personuppgifter (personuppgiftsansvarig) är Västra Götalandsregionen. Enligt EU:s dataskyddsförordning har du rätt att kostnadsfritt få ta del av de uppgifter om dig som hanteras i projektet, och vid behov få eventuella fel rättade. Du kan också begära att uppgifter om dig raderas samt att behandlingen av dina personuppgifter begränsas. Rätten till radering och till begränsning av behandling av personuppgifter gäller dock inte när uppgifterna är nödvändiga för den aktuella forskningen. Om du vill ta del av uppgifterna ska du kontakta huvudansvarig forskare Emma Hansson, Gröna Stråket 8, 413 45 Göteborg. Tel. 031-3423700. Dataskyddsombud nås på sahlgrenska.universitetssjukhuset.dso@vgregion.se . Om du är missnöjd med hur dina personuppgifter behandlas har du rätt att ge in klagomål till Integritetsskyddsmyndigheten, som är tillsynsmyndighet.

Hur får jag information om resultatet av projektet?

Resultatet kommer att presenteras på gruppnivå i vetenskapliga artiklar. Om du önskar kopia på din utskriva intervju kontaktar du forskningssjuksköterskan (kontaktuppgifter sist i detta dokument).

Försäkring och ersättning

Sedvanlig patientskadeförsäkring gäller. Ingen ersättning utgår för deltagande i projektet.

Deltagandet är frivilligt

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Ansvariga för projektet är FOU-sjuksköterska Susanne Meyer, susanne.meyer@vgregion.se Lektor Anna Paganini, specialistsjuksköterska, med dr. anna.paganini@vgregion.se, prof. Emma Hansson, öl, emma.em.hansson@vgregion.se Alla tre nås på: Verksamhet

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Intervju kring val av operationsteknik

Plats och datum	Underskrift
	Namnförtydligande

SPIRIT 2013 Checklist: Recommended items to address in a clinical trial protocol and related documents*

Section/item	Item No	Description	Addressed on page number
Administrative information			
Title	1	Descriptive title identifying the study design, population, interventions, and, if applicable, trial acronym	Title page
Trial registration	2a	Trial identifier and registry name. If not yet registered, name of intended registry	p. 9
	2b	All items from the World Health Organization Trial Registration Data Set	p. 9
Protocol version	3	Date and version identifier	p. 9
Funding	4	Sources and types of financial, material, and other support	p. 24
Roles and responsibilities	5a	Names, affiliations, and roles of protocol contributors	Cover page
	5b	Name and contact information for the trial sponsor	Cover page, pp. 39-40
	5c	Role of study sponsor and funders, if any, in study design; collection, management, analysis, and interpretation of data; writing of the report; and the decision to submit the report for publication, including whether they will have ultimate authority over any of these activities	p. 40
	5d	Composition, roles, and responsibilities of the coordinating centre, steering committee, endpoint adjudication committee, data management team, and other individuals or groups overseeing the trial, if applicable (see Item 21a for data monitoring committee)	NA

Introduction			
Background and rationale	6a	Description of research question and justification for undertaking the trial, including summary of relevant studies (published and unpublished) examining benefits and harms for each intervention	pp. 5-7
	6b	Explanation for choice of comparators	p. 7
Objectives	7	Specific objectives or hypotheses	pp. 7-8
Trial design	8	Description of trial design including type of trial (eg, parallel group, crossover, factorial, single group), allocation ratio, and framework (eg, superiority, equivalence, noninferiority, exploratory)	p. 8
Methods: Participants, interventions, and outcomes			
Study setting	9	Description of study settings (eg, community clinic, academic hospital) and list of countries where data will be collected. Reference to where list of study sites can be obtained	p. 9
Eligibility criteria	10	Inclusion and exclusion criteria for participants. If applicable, eligibility criteria for study centres and individuals who will perform the interventions (eg, surgeons, psychotherapists)	p. 10 (Figure 2)
Interventions	11a	Interventions for each group with sufficient detail to allow replication, including how and when they will be administered	pp. 10-12
	11b	Criteria for discontinuing or modifying allocated interventions for a given trial participant (eg, drug dose change in response to harms, participant request, or improving/worsening disease)	p. 12
	11c	Strategies to improve adherence to intervention protocols, and any procedures for monitoring adherence (eg, drug tablet return, laboratory tests)	p. 19
	11d	Relevant concomitant care and interventions that are permitted or prohibited during the trial	p.12
Outcomes	12	Primary, secondary, and other outcomes, including the specific measurement variable (eg, systolic blood pressure), analysis metric (eg, change from baseline, final value, time to event), method of aggregation (eg, median, proportion), and time point for each outcome. Explanation of the clinical relevance of chosen efficacy and harm outcomes is strongly recommended	pp. 13-15
Participant timeline	13	Time schedule of enrolment, interventions (including any run-ins and washouts), assessments, and visits for participants. A schematic diagram is highly recommended (see Figure)	Figure 4

Sample size	14	Estimated number of participants needed to achieve study objectives and how it was determined, including clinical and statistical assumptions supporting any sample size calculations	p. 10, Figure 3
Recruitment	15	Strategies for achieving adequate participant enrolment to reach target sample size	pp. 10, 16
Methods: Assignment of interventions (for controlled trials)			
Allocation:			
Sequence generation	16a	Method of generating the allocation sequence (eg, computer-generated random numbers), and list of any factors for stratification. To reduce predictability of a random sequence, details of any planned restriction (eg, blocking) should be provided in a separate document that is unavailable to those who enrol participants or assign interventions	p. 13
Allocation concealment mechanism	16b	Mechanism of implementing the allocation sequence (eg, central telephone; sequentially numbered, opaque, sealed envelopes), describing any steps to conceal the sequence until interventions are assigned	p. 13
Implementation	16c	Who will generate the allocation sequence, who will enrol participants, and who will assign participants to interventions	p. 13
Blinding (masking)	17a	Who will be blinded after assignment to interventions (eg, trial participants, care providers, outcome assessors, data analysts), and how	NA
	17b	If blinded, circumstances under which unblinding is permissible, and procedure for revealing a participant's allocated intervention during the trial	NA
Methods: Data collection, management, and analysis			
Data collection methods	18a	Plans for assessment and collection of outcome, baseline, and other trial data, including any related processes to promote data quality (eg, duplicate measurements, training of assessors) and a description of study instruments (eg, questionnaires, laboratory tests) along with their reliability and validity, if known. Reference to where data collection forms can be found, if not in the protocol	pp. 17, 19
	18b	Plans to promote participant retention and complete follow-up, including list of any outcome data to be collected for participants who discontinue or deviate from intervention protocols	p. 19

Data management	19	Plans for data entry, coding, security, and storage, including any related processes to promote data quality (eg, double data entry; range checks for data values). Reference to where details of data management procedures can be found, if not in the protocol	p. 20
Statistical methods	20a	Statistical methods for analysing primary and secondary outcomes. Reference to where other details of the statistical analysis plan can be found, if not in the protocol	pp. 17-18
	20b	Methods for any additional analyses (eg, subgroup and adjusted analyses)	pp. 16-18
	20c	Definition of analysis population relating to protocol non-adherence (eg, as randomised analysis), and any statistical methods to handle missing data (eg, multiple imputation)	pp. 17-18
Methods: Monitoring			
Data monitoring	21a	Composition of data monitoring committee (DMC); summary of its role and reporting structure; statement of whether it is independent from the sponsor and competing interests; and reference to where further details about its charter can be found, if not in the protocol. Alternatively, an explanation of why a DMC is not needed	pp. 20-21
	21b	Description of any interim analyses and stopping guidelines, including who will have access to these interim results and make the final decision to terminate the trial	NA
Harms	22	Plans for collecting, assessing, reporting, and managing solicited and spontaneously reported adverse events and other unintended effects of trial interventions or trial conduct	p. 21
Auditing	23	Frequency and procedures for auditing trial conduct, if any, and whether the process will be independent from investigators and the sponsor	pp. 20-21
Ethics and dissemination			
Research ethics approval	24	Plans for seeking research ethics committee/institutional review board (REC/IRB) approval	p. 22
Protocol amendments	25	Plans for communicating important protocol modifications (eg, changes to eligibility criteria, outcomes, analyses) to relevant parties (eg, investigators, REC/IRBs, trial participants, trial registries, journals, regulators)	p. 22

Consent or assent	26a	Who will obtain informed consent or assent from potential trial participants or authorised surrogates, and how (see Item 32)	p. 22
	26b	Additional consent provisions for collection and use of participant data and biological specimens in ancillary studies, if applicable	p. 22
Confidentiality	27	How personal information about potential and enrolled participants will be collected, shared, and maintained in order to protect confidentiality before, during, and after the trial	pp. 20-21
Declaration of interests	28	Financial and other competing interests for principal investigators for the overall trial and each study site	p. 22
Access to data	29	Statement of who will have access to the final trial dataset, and disclosure of contractual agreements that limit such access for investigators	pp. 20-21
Ancillary and post-trial care	30	Provisions, if any, for ancillary and post-trial care, and for compensation to those who suffer harm from trial participation	p. 21
Dissemination policy	31a	Plans for investigators and sponsor to communicate trial results to participants, healthcare professionals, the public, and other relevant groups (eg, via publication, reporting in results databases, or other data sharing arrangements), including any publication restrictions	pp. 22-23
	31b	Authorship eligibility guidelines and any intended use of professional writers	pp. 22-23
	31c	Plans, if any, for granting public access to the full protocol, participant-level dataset, and statistical code	p. 20
Appendices			
Informed consent materials	32	Model consent form and other related documentation given to participants and authorised surrogates	Appendices
Biological specimens	33	Plans for collection, laboratory evaluation, and storage of biological specimens for genetic or molecular analysis in the current trial and for future use in ancillary studies, if applicable	NA

*It is strongly recommended that this checklist be read in conjunction with the SPIRIT 2013 Explanation & Elaboration for important clarification on the items. Amendments to the protocol should be tracked and dated. The SPIRIT checklist is copyrighted by the SPIRIT Group under the Creative Commons "Attribution-NonCommercial-NoDerivs 3.0 Unported" license.

SPIRIT | CONSORT OUTCOMES
Reporting Guidelines for Trial Outcomes

SPIRIT-Outcomes 2022 Extension items only (for separate completion of SPIRIT 2013 and SPIRIT-Outcomes 2022 items)[a]

Section	Item No.	SPIRIT-Outcomes 2022 item	Location Reported[b]
Methods: Participants, interventions, and outcomes			
Outcomes	12.1	Provide a rationale for the selection of the domain for the trial's primary outcome	
	12.2	If the analysis metric for the primary outcome represents within-participant change, define and justify the minimal important change in individuals	
	12.3	If the outcome data collected are continuous but will be analyzed as categorical (method of aggregation), specify the cutoff values to be used	
	12.4	If outcome assessments will be performed at several time points after randomization, state the time points that will be used for analysis	
	12.5	If a composite outcome is used, define all individual components of the composite outcome	
Sample size	14.1	Define and justify the target difference between treatment groups (eg, the minimal important difference)	
Methods: Data collection, management, and analysis			
Data collection methods	18a.1	Describe what is known about the responsiveness of the study instruments in a population similar to the study sample	
	18a.2	Describe who will assess the outcome (eg, nurse, parent)	
Statistical methods	20a.1	Describe any planned methods to account for multiplicity in the analysis or interpretation of the primary and secondary outcomes (eg, coprimary outcomes, same outcome assessed at multiple time points, or subgroup analyses of an outcome)	

[a]It is strongly recommended that this checklist be read in conjunction with the SPIRIT (Standard Protocol Items: Recommendations for Interventional Trials) Statement paper for important clarification on the items. Amendments to the protocol should be tracked and dated. The SPIRIT checklist is copyrighted by the SPIRIT Group under the Creative Commons "Attribution-NonCommercial-NoDerivs 3.0 Unported" license and is reproduced with permission.

[b]Indicates page numbers and/or manuscript location: to be completed by authors during trial protocol development.

BMJ Open

Gothenburg Breast reconstruction (GoBreast) II protocol: A Swedish partially randomised patient preference, superiority trial comparing autologous and implant-based breast reconstruction

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Primary Subject Heading:	Surgery
Secondary Subject Heading:	Evidence based practice
Keywords:	PLASTIC & RECONSTRUCTIVE SURGERY, Breast surgery < SURGERY, Randomized Controlled Trial

Gothenburg Breast reconstruction (GoBreast) II protocol: A Swedish partially randomised patient preference, superiority trial comparing autologous and implant-based breast reconstruction

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Running Title: The Gothenburg Breast Reconstruction II study (GoBreast II)

Sources of funding: The Swedish Cancer Society (grant number 23 3240 S).

Category: Research protocol

Abstract

Introduction

Although breast reconstruction is an integral part of breast cancer treatment, there is little high-quality evidence to indicate which method is the most effective. Randomized controlled trials (RCT) are generally thought to provide the most solid scientific evidence, but there are significant barriers to conducting RCTs in breast reconstruction, making both recruitment and achieving unbiased and generalisable results a challenge. The objective of this study is to compare implant-based and autologous breast reconstruction in non-irradiated patients. Moreover, the study aims to improve the evidence for trial decision-making in breast reconstruction.

Methods and analysis

The study design partially randomised patient preference trial (RPPT) might be a way to overcome the aforementioned challenges. In the present study, patients who consent to randomisation will be randomised to implant-based and autologous breast reconstruction, whereas patients with strong preferences will be able to choose method. The study is designed as a superiority trial based on BREAST-Q and 124 participants will be randomised. In the preference cohort, patients will be included until 62 participants have selected the least popular alternative. Follow-up will be 60 months. Embedded qualitative studies and within-trial economic evaluation will be performed. The primary outcome is patient-reported breast-specific quality of life/satisfaction, and the secondary outcomes are complications, factors affecting satisfaction, and cost-effectiveness.

Ethics and dissemination

The study has been approved by the Swedish Ethical Review Authority (2023-04754-01). Results will be published in peer-reviewed scientific journals and presented at peer-reviewed scientific meetings.

Trial registration: ClinicalTrials.Gov identifier NCT06195865

Funding: Swedish Cancer Association (23 3240 S).

Strengths and limitations of this study

- This protocol uses partially randomised patient preference trial (RPPT) to compare different techniques in breast reconstruction.
- The protocol includes studies within a trial (SWATs) to further explore the research methodology.
- The outcomes measures of the protocol include outcomes important to patients and professionals and for society, such as patient reported outcomes, complications, and cost-effectiveness.
- Conceptual risks of the protocol include difficulty in recruiting participants, especially to the randomized arm, and a low adherence and retention.
- The protocol includes patients from a single country which might limit the generalization to different health care systems.

Introduction

Background and rationale

Breast reconstruction is an integral part of modern breast cancer treatment[1 2]. Nevertheless, evidence for the effectiveness of breast reconstruction methods is lacking with respect to increasing quality of life and achieving high patient satisfaction, with a low complication rate and societal economic costs. The low evidence is reflected in the varying guidelines for breast reconstruction and unequal access to different methods that have been seen in a European study[3], as well as in a report published by the Swedish Breast Cancer Association [4]. Techniques for breast reconstruction can roughly be divided into two categories: *autologous* and *implant-based* techniques. Three systematic reviews [5-7] have concluded that patients seem to have a higher breast-related quality of life when reconstructed with autologous techniques compared with implant-based techniques. However, most of the included studies were retrospective, non-randomised, did not correct for other factors that might affect satisfaction, and had a short follow-up. Moreover, few high-quality studies compare long-term cost-effectiveness [8] and the long-term need for revisions and corrections and donor-site consequences. All of these factors are essential to create evidence-based guidelines, prioritize usage of health-care resources and to give the patients information on which they can base decisions of breast reconstruction. There are no ongoing trials registered in ClinicalTrials.gov comparing different categories of breast reconstruction technique head-to-head*.

Randomized controlled trials (RCT) are generally thought to provide the most solid scientific evidence for treatment effects. However, there are barriers to conducting RCTs in breast reconstruction, making both recruitment and achieving unbiased and generalisable results a challenge [9 10]. Firstly, an RCT requires that there is solid uncertainty about which

* https://clinicaltrials.gov/search?cond=breast%20reconstruction (search performed 22.07.2023)

method achieves the best results. In the case of breast reconstruction, the operating surgeon must not prefer one method to another (*theoretical equipoise*) [11] as this could result in both biased recruitment as well as biased outcomes if the included patients receive biased pre- and post-operative information [9]. The patient must also not have pre-formed ideas and clear preferences regarding the different methods (*principle of indifference)* [11] based on, for example, other patients, patient organizations, and the media, as this also affects the recruitment and the results. Patients' preferences can affect the external validity if a standard treatment, for example implant-based breast reconstruction in non-irradiated patients[12], is compared to an alternative treatment, for example autologous reconstruction, as only patients who prefer autologous reconstruction are likely to accept randomisation. Patients' preferences could also reduce internal validity as randomisation to the (non-) preferred strategy could affect both adherence to the protocol (*reluctant acquiescence phenomenon*) [13] and outcome. All these factors would lead to results that are not generalisable to the clinical population. This risk of bias and low internal and external validity illustrates why an RCT can be an inappropriate study design when comparing different categories of breast reconstruction.

A PubMed search on breast AND reconstruction, limited to RCTs, yields 419 results (10.07.2023) (*submitted manuscript*). One-hundred and nine of them are RCTs concerning some aspect of breast reconstruction. The majority compared surgical variation within the same category of breast reconstruction technique, for example one vs. two stages or mesh vs. no mesh in implant-based breast reconstruction and preoperative imaging vs. no preoperative imaging in autologous breast reconstruction. Only four studies compare different categories of breast reconstruction techniques head-to-head [14-17] and they all illustrate the aforementioned challenges with RCTs in breast reconstruction. For example, in the RCT performed in our department, the Gothenburg Breast Reconstitution trial (GoBreast) [17 18], pre-intervention drop-

outs rates after randomisation varied between 12.5 and 23 per cent in different groups, due to either the patient's or surgeon's preferences.

The study design partially randomised patient preference trial (RPPT) is an approach to diminish the impact of patients' preferences, facilitate recruitment, increase patient centricity, decrease the risk of excluding large patient groups, and make the results more generalisable to the clinical population, when preference sensitive interventions are compared[19]. In an RPPT, patients with a clear preference are treated accordingly and patients without a distinct preference are randomised in the traditional way. The RPPT design enables a more efficient inclusion of participants, and a clinically more representative study population, while maintaining a high external and internal validity [19]. GoBreast II will mark the first use of an RPPT design to evaluate breast reconstruction methods.

Choice of comparators

There is a myriad of different surgical options in breast reconstruction, such as different meshes and implants, as well as different pedicled or free flaps, but there are two main categories: implant-based or autologous breast reconstruction. The two main categories are compared in this study.

Research hypotheses

It is hypothesised that:

- patients are more satisfied with the reconstructed breast/s when an autologous deep inferior epigastric perforator (DIEP) flap is performed.
- albeit a 'simpler procedure', implant-based reconstruction entails a higher total number of operations and revisions long-term, compared to autologous DIEP-flap.

- albeit a procedure that is more costly for the healthcare system when it is performed, an autologous DIEP-flap is more cost-effective for society in the long-term perspective, due to long-term effects and consequences of implants.

Study objectives

The main overall purpose of a breast reconstruction is to increase the woman's quality of life, both physically and psychosocially. Therefore, the primary objective/outcome is to compare the two methods regarding patient-reported breast-specific quality of life and satisfaction. These measures are also part of the core outcome set for breast reconstruction developed by patients and professionals [20].

The secondary objectives are to compare the two methods regarding complications, unplanned operations, corrections, cost-effectiveness, and factors that might affect the primary outcome. Other secondary objectives are to improve the evidence for trial decision-making in breast reconstruction to improve the methodological design and process of future studies, by means of a study within a trial (SWAT) [21].

Trial design

GoBreast II is a partially randomised patient preference trial (RPPT) with a superiority framework. Participants that accept randomisation will be allocated to one of the two methods. Participants that do not accept randomisation will be operated with their preferred method. Thus, the study, has two cohorts: one randomised and one patient preference (Figure 1). The trial is a single-centre study conducted at a university hospital in Sweden. It has embedded qualitative and health economic research questions.

Methods and analysis

Reporting and pre-registration

This protocol is reported in accordance with the Standard Protocol Items: Recommendations for Interventional Trials (SPIRIT) statement 2013 [22] (Appendix 1), including the SPIRIT-PRO extension [23] (Appendix 2). The trial was registered at (ClinicalTrials.Gov identifier NCT06195865).

Study setting

The study will be performed at Sahlgrenska University Hospital in Gothenburg, Sweden, where the Department of Plastic Surgery currently performs about 350 breast reconstructions yearly, both in the immediate and the delayed setting. In the catchment area of Sahlgrenska University Hospital, all patients diagnosed with breast cancer who have had or will receive a mastectomy and are considering a breast reconstruction are referred to this department. Among the referrals, potentially eligible participants will be invited to consider participation in the trial. According to the current Swedish guidelines [12], non-irradiated patients are offered mainly implant-based breast reconstruction and irradiated patients autologous techniques. The Swedish healthcare system is a publicly funded welfare-type healthcare system, with a strong emphasis on equal access.

Population

Recruitment and inclusion and exclusion criteria

Among the referrals to the department, potentially eligible participants will be invited to consider participation in the trial. Inclusion and exclusion criteria are given in Figure 2.

Sample size

The study is designed as a superiority trial based on the BREAST-Q domain *Satisfaction with the breast/s*[24-26]. The clinically meaningful difference in BREAST-Q was set to 10 points. There are no anchor-based minimal important differences (MIDs) published for BREAST-Q, but the distribution-based MID is 4 for Satisfaction with the breast/s [27]. The standard deviation was set to 18, as calculated according to US norms [28]. If power is set to 0.80, alfa to 0.05, the ratio of case to control as 1 and a 20% drop out rate is expected, 62 patients are needed in each group†. In the randomised cohort 124 participants will be randomised 1:1. In the preference cohort patients will be included until 62 participants have selected the least popular alternative (Figure 3). This will result in an overall trial cohort with a minimum of 124 participants in each arm and enough participants in the subgroups *randomised* and *patient preference* to allow for analyses of differences.

Uniform preoperative counselling

Uniform counselling is crucial in the RPPT design [19]. All patients eligible for inclusion in the study will be counselled using the *PEGASUS (Patients' Expectations and Goals of reconstruction. Assisting Shared Understanding of Surgery)* tool [29 30] to make the decision of whether they want a breast reconstruction. The tool is used to form a basis for a patient-centred dialogue around breast reconstruction. An implementation study using PEGASUS in a Swedish context is currently being performed in our department. Following the PEGASUS session, an appointment with a plastic surgeon, skilled in both implant-based and autologous breast reconstruction, will be scheduled for more technical counselling regarding the two reconstructive options. The information will be standardised for the study.

† https://riskcalc.org/samplesize/

Interventions

Mastectomy

The mastectomies will be performed by general surgeons (breast surgeons). In case of an immediate breast reconstruction a skin sparing mastectomy will be performed. The nipple-areolar complex (NAC) will be preserved if it is oncologically safe. In case of an immediate breast reconstruction, a Wise pattern skin resection will be made in ptotic, otherwise a submammary incision, or vertical incision if the NAC has to be removed, will be performed. Delayed breast reconstruction will be performed following simple mastectomy. All reconstructions will be performed by consultant plastic surgeons with a subspecialty in breast reconstruction and minimum of 5 years of independent experience of the used techniques.

Autologous breast reconstruction: DIEP-flap

All DIEP-flaps are performed by plastic surgeons according to the standard of care of the department. In summary, it is performed as a cutaneo-adipose flap, without muscle, and if possible anastomosed to the internal thoracic artery and vein. If needed, the superficial epigastric vein is anastomosed to the cephalic vein through a small incision in the axillary fold. If possible, the flap is buried, when an immediate breast reconstruction is performed. In delayed breast reconstruction, a skin island is inserted between the submammary fold and the old mastectomy scar.

Implant-based breast reconstruction

All implant-based breast reconstructions are performed by plastic surgeons according to standard of care of the department. In immediate breast reconstruction, a sub-pectoral pocket is created and the inferior-medial and inferior attachments of the major pectoral muscle are released. If a permanent implant (CPG®, Mentor Worldwide LLC, CA, USA) is used a

synthetic TIGR® Matrix Surgical Mesh (Novus Scientific, Uppsala, Sweden) [31 32] is sutured to the inferior border of the pectoral muscle and to the chest wall corresponding to the inframammary fold and lateral border of the implant pocket; hence a dual plane approach is applied. *The Gothenburg TIGR/Veritas Study* [32-34] comparing a biological and a synthetic mesh in immediate breast reconstruction demonstrated that the synthetic mesh is superior to the biological regarding complications and is equivalent regarding patient satisfaction. Therefore, the synthetic mesh has become a standard of care and will be used in the present study. If a tissue expander (CPX™4 or Siltex® Becker™, Mentor Worldwide LLC, CA, USA) is used, a m. serratus pocket is created to block the expander laterally to achieve a muscle covered device. A temporary expander is exchanged for a permanent implant about three months after the initial operation.

Criteria for discontinuing or modifying allocated interventions for a given trial participant

Trial participants have the right to withdraw from the study at any time, without any consequence. Before the reconstruction, patients can change from the randomised cohort to the preference cohort, should they change their wishes. Their data will then be analysed according to their change. If the patient regrets her choice of cohort after her reconstruction, she will be included in the analysis of her original cohort, but her change of preference noted.

Concomitant care and follow-up visits

Treatment of the patients will be conducted by standard of care regardless of trial participation. Routine clinical assessment will be performed in accordance with the standard of care. No extra trial-specific clinical follow-up assessments will be performed.

Randomised patients and randomisation processes

Participants that accept randomisation will be randomised in a 1:1 ratio, using simple randomisation, with equal probability, to either autologous or implant-based reconstruction (Figure 3). The mechanism of implementing the allocation sequence is sealed envelope. Allocation sequence will be ensured as the sequence will be concealed for participants, surgeons, and research staff until the participant has been included in the randomised arm, which takes place after all inclusion and exclusion criteria have been checked, the PEGASUS intervention performed, and baseline clinical evaluation completed at the appointment with the plastic surgeon. All patients giving consent to participate in the randomised cohort that fulfils inclusion criteria will be randomised. Randomisation will be conducted without any influence of the surgeons/researchers. The intervention nature does not allow blinding.

In the patient preference cohort, patients will be included until the minimum targeted sample size has been reached, that is until the minimum number of participants has selected the least popular alternative (Figure 3).

Outcomes

Primary outcome: Satisfaction with the breast/s and breast-specific quality of life

BREAST-Q reconstruction module (version 1) is a validated disease-specific patient-reported instrument that measures outcome after breast reconstruction, breast-related quality of life, and patient satisfaction [24-26]. The following domains will be analysed: Satisfaction with breast/s, Satisfaction with outcome, Psychosocial well-being chest, Sexual well-being, Physical well-being chest, and Satisfaction with information. The patient rates all items in the domains on 3-, 4-, and 5-point Likert-scales. A raw score, that is converted to a score 0-100, is calculated for each domain. A higher score indicates a greater satisfaction or better quality

of life. Normative data have been described for a Swedish population [35] and it will be used for reference values. A further validation of the Swedish version is ongoing in our department.

Secondary outcomes

All adverse events are classified according to the Clavien–Dindo Classification (CDC) of surgical complications and Comprehensive Complication Index (CCI) scores [36], as well as specific complications. CDC and CCI are currently being validated for breast reconstruction in our department. All participating surgeons will be given a list of study specific definitions of *complications and corrections/revisions. Satisfaction with the donor-site* will be measured with BREAST-Q donor site domains, expectations with BREAST-Q expectations domain [37] [38], *symptoms of depression and anxiety* with Hospital Anxiety and Depression Scale (HADS) [39] [40], *body image* with the Appearance Schemas Inventory-revised (ASI-R) [41]and the Multidimensional Body-Self Relation Questionnaire (MBSRQ) [42], *generic quality of life* with EuroQoL-5 dimensions (EQ-5D-3L) [43], and the *patient's goals with the reconstruction* will be documented using PEGASUS [19].

The BREAST-Q donor site module has two domains (Satisfaction with abdomen and Physical well-being: abdomen) and the expectations module has 6 domains (Support from Medical Staff, Pain: Postop, Coping, Appearance: Clothes, Sensation: Breasts, and Function: Abdomen) and they are scored as described under 'primary outcomes'. HADS [40] measures symptoms of anxiety and depression in somatically ill patients on a Likert-scale. For both domains, scores of less than 7 indicate non-cases, whereas scores of 8-10 indicate possible cases and scores of >10 indicate probable cases [39 44 45]. The ASI-R measures body image investment, how important the individual believes their physical appearance is for her/his own self-worth, on Likert scales and has two domains: Self-Evaluative Salience and Motivational Salience. The scores for the two domains are calculated as the mean of the items for each subscale. The total ASI-R score is the mean of all 20 items. A higher score indicates greater body image investment [46]. The MBSRQ measures appearance related aspects of body image, on Likert scales, and has four domains: Appearance Evaluation, Appearance Orientation, Body Areas Satisfaction, and Overweight Preoccupation [42]. *Euroqol-5 dimensions (EQ-5D)* has 5-dimensions: mobility, self-care, usual activities, pain/discomfort, and anxiety/depression. The patient rates his/her health on a 3-level Likert scale and a score is calculated, where 1 indicates "perfect health" and 0 "death". EQ-5D-3L The instrument also comprises a visual analogue scale (VAS) where the patient marks his/her current health state, from 0 ("worst imaginable") to 100 ("best imaginable") [43 47]. The PEGASUS instrument is described under 'Uniform preoperative counselling'.

Study Within A Trial (SWAT) [21]

The RPPT design will be assessed quantitatively using a SWAT[21]. This considers rate of patients fulfilling the criteria and agreeing to participate in the study, time it takes to recruit the target number in each group, rate of patients who accept randomisation, and differences between the randomisation and preference cohort regarding demographic factors as well as

pre-operative satisfaction with breasts, expectations, body-image, symptoms of depression and anxiety, and generic quality of life. To obtain insights into attitudes towards and experiences of the process of the study, semi-structured interviews will be conducted concerning issues such as how the process can be ameliorated to increase recruitment, retention, and follow-up rates of questionnaires, and how the participation information leaflet should be improved to maximize recruitment. Trial participants, participating surgeons and research nurses will be interviewed. Embedded qualitative studies will be used to investigate the participants' thoughts, attitudes and experiences regarding:

- *The choice of breast reconstruction and the choice of reconstructive method.* Participants will be recruited from the preference cohort. Longitudinal – the same participants will be interviewed at allocation and 12 months after the reconstruction.
- *What makes a participant very satisfied or very dissatisfied.* Participants will be recruited from both cohorts among women who scored high/low, compared to the mean, on BREAST-Q outcome and satisfaction with breast/s.
- *SWAT*[21]*: How the participant experienced the trial process, how it can be ameliorated to increase recruitment, retention, and follow-up rates of questionnaires and how participation information leaflet should be designed/written to maximize recruitment.* Different participants from both cohorts are interviewed at allocation, 3 and 12 months to explore if there are different themes at different time points.

Qualitative approaches and research paradigms will be chosen based on type of question studied. Interview guides are given as Appendix 3. A purposive criterion-sampling technique will be used at the time points described in Figure 4. Interviews will follow semi-structured interview guides designed for each research question. Participants will be recruited until saturation has been achieved.

Health economic analysis

A within-trial economic evaluation will be performed 36 months post-allocation. The primary economic analysis will be a cost-effectiveness analysis presenting incremental cost-effectiveness ratios (ICERs). Effects will be expressed in terms of Quality-Adjusted Life-Years (QALYs), where health-related quality of life will be assessed based on EQ-5D-3L using the UK Dolan tariff as well as a Swedish population-based tariff [47 48]. A societal perspective will be adopted that includes healthcare costs and broader societal economic costs from sick leave based on the human capital approach. The healthcare costs will be based on impatient, outpatient and primary care resource use and be collected from the controller of our departments (actual costs for the care given excluding any costs driven by the study protocols) and from VEGA, the healthcare use database in Region Västra Götaland. Information on sick leave will be collected from the Swedish Social Insurance Agency (*Försäkringskassan*‡) and information on the average income in different age groups from Statistics Sweden (*Statistikmyndigheten*, SCB§). ICERs and incremental net benefit (monetary/health) statistics will be assessed to compare the two interventions. The uncertainty will be assessed by non-parametric bootstrapping and visualized by means of cost-effectiveness planes and cost-effectiveness acceptability curves.

Data collection and participant timeline

The participant timeline for the trial is shown in Figure 4.

Statistical methods

‡ https://www.forsakringskassan.se/english
§ https://www.scb.se/en/

A detailed statistical analysis plan (SAP) will be drafted early in the trial and finalised before primary outcome analysis. All analysis will be performed on an intention-to-treat basis (ITT) and per-protocol analysis (PP) as sensitivity analysis. Descriptive data will be given as appropriate according to type of data and if it is skewed or not. This will also form the basis for statistical tests chosen to compare groups. Sensitivity analysis will be done were missing data in predictors will be handled by multiple imputation methods[49]. Regression analysis, preceded by collinearity check of potential predictors and performed to allow for correction for possible confounders. Residuals for each regression analysis will be checked for the assumptions of normal distribution and constant deviation along the predicted values. Sub-group analyses will be performed for the randomised and the preference cohort and for timing of reconstruction (immediate/delayed reconstruction) and for patients who unexpectedly will require radiotherapy. The statistical analysis will adhere to the SISOQOL framework [50]. All tests will be two-tailed and a p-value of ≤ 0.05 will be considered to indicate a statistical significance.

Adherence

Trial participants will be given their scheduled follow-up appointment at hospital discharge, with the following scheduled by post. A reminder text-message will be sent prior to the appointments to improve adherence. Patient reported outcome measure instruments will be given to the patient when they are allocated to treatment and then sent by mail at the subsequent time-points. Two reminders will be sent to the patients if a questionnaire reply is not received by the hospital. Questionnaires will be given to the participants at allocation and then sent by mail, with up to two reminders, at the remaining time-points, with reminders to ensure continued participation.

Retention

Any trial participant lost to follow-up will be contacted to complete the 3, 12, 36, and 60-months follow-up. The trialists will make every reasonable effort to follow participants for the entire study period. If available, a reason for withdrawal will be documented.

Data management, confidentiality, and access to data

Arrangements for data handling and processing of personal data are detailed in the data management plan (DMP). All data will be handled according to the *General Data Protection Regulation* 2016/679 (GDPR), confidentiality offered by Swedish law (Offentlighets- och sekretesslagen (2009:400)), the ethical permit, and guidelines of the Swedish Authority for Privacy Protection (Integritetsskyddsmyndigheten, IMY[**]) and of the data controller and sponsor Region Västra Götaland (VGR). A data protection officer has been appointed by VGR. The lawfulness of data processing is a necessity for the performance of a task carried out in the public interest or in the exercise of official authority vested in the controller (art 6, GDPR). Data and meta-data are collected and stored on paper within secure locations, in a locked cabinet approved for storage of class 3 and 4 information. Working files and continuous documentation are collected using VGR-licensed computer software on password protected computers maintained by VGR. Storage and back-up are performed in accordance with the guidelines of VGR. The filing system is registered in accordance with guidelines of VGR. Data provenance is documented through codes (pseudonymised). Coding lists are stored and sealed according to the local routine of the Department of Plastic Surgery. All documentation and data will be archived 25 years in the VGR repository according to VGR guidelines. Clinical trial participant-level data (IPD) will not be shared due to confidentiality. To ensure data quality during the life of the study it is monitored as described in the DMP.

Monitoring

VGR and the University of Gothenburg will undertake the role of sponsors in accordance with local guidelines. VGR will act as data controller. Delegated responsibilities will be assigned

[**] https://www.imy.se/en/

to the principal investigator, participating researchers, and research nurses. The full co-application team and clinical staff responsible for the day-to-day management of the trial will form the trial management group, which is responsible for monitoring recruitment and retention. No separate data monitoring committee is planned for this single-centre study.

Safety and harms

The trial interventions are identical to the usual clinical practice. The only difference is that non-irradiated patients are offered autologous reconstruction, an option usually reserved for irradiated patients. Autologous breast reconstruction has been performed in our department since 1979 [51] and we currently perform around 120 per year in irradiated patients. Similarly, questionnaires can be sent to patients in the usual clinical practice to monitor their progress. Therefore, the risks of participating in the trial are considered similar to those of usual clinical practice. Adverse events are defined as any undesirable event occurring to the patient during the study period. All possible adverse events will be documented on clinical report forms (CRFs) and in the medical charts according to standard procedures for clinical trials and Good Clinical Practice. All implants will be registered in the Swedish breast implant registry (BRIMP)††.

The Swedish health care service covers all the health care needs of the inhabitants and thus of the trial participants during and after the trial. Patients enrolled in the study are covered by the standard insurance and indemnity of the Swedish public health care service (*Löf regionernas ömsesidiga försäkringsbolag*‡‡).

†† https://brimp.registercentrum.se
‡‡ https://lof.se/language/engelska-english

Ethics and dissemination

The study has been approved by the Swedish Ethical Review Authority[§§] (2023-04754-01). Any protocol amendments or ancillary studies will be vetted by the Swedish Ethical Review Authority.

Results will be published in peer reviewed scientific journals and presented at peer-reviewed scientific meetings. Researchers and trialists that have made a substantive contribution in accordance with the Vancouver recommendations for authorships and fulfil the criteria and requirements of the International Committee of Medical Journal Editors (IMCJ)[***] will be listed as authors for the publications. Those who do not fulfil the criteria will not be granted authorship. The CRediT (Contributor Roles Taxonomy)[†††] will be used to declare the authors' roles for every manuscript. Professional medical writers will not be employed.

The datasets used and analysed during the studies will not be published in a public depository but will be available from the corresponding author on reasonable request, ethical permission, and compliance with GDPR and Swedish law (cf. 'Data management, confidentiality, and access to data').

Consent or assent

Participants that are eligible for inclusion will be invited and given written and oral standardised information and have the chance to ask any questions about the trial. Patients who consent verbally to participation will be asked to sign a written consent form before allocation (Appendix 4). A similar, but separate, consent process will be performed for participants asked for inclusion in the qualitative studies and in the SWAT[21]. Qualitative

§§ https://etikprovningsmyndigheten.se/en/
*** https://www.icmje.org/recommendations/browse/roles-and-responsibilities/defining-the-role-of-authors-and-contributors.html
†††††† https://credit.niso.org

studies will be performed at different time points for different research questions and the participants will be informed about the studies and asked for consent at these timepoints. The participant will be contacted by phone and informed about the study by the researcher who performs the interviews and then sent written information about the study. A week later the participant will receive a new phone call asking for consent and booking of date for interview. The quantitative SWAT analyses are included in the basic consent for the study. Participants are free to withdraw at any time and for any reason, without consequence. Participants that withdraw from follow-up questionnaires may continue to consent for data collection from CRFs and clinical records. Data collected prior to withdrawal may be retained and used in the analyses if the participants consent to it.

Declaration of interests

The principal investigator and participating researchers have no financial or other competing interests to declare.

Patient and public involvement

Official representatives of the Breast Cancer Association have participated in the planning of the study and are co-authors of this protocol (CL, AU, KS). The group will be collaborators in the study, throughout its course, and in the analysis of the results and writing of the manuscripts.

A qualitative study embedded in the first GoBreast study (*manuscript under writing*) has demonstrated that the patients scoring low on satisfaction with breast on BREAST-Q often attribute their low satisfaction to a feeling of not being involved in the decision around breast reconstruction and that they have not been allowed to make their own informed decisions. The lack of patient involvement and adequate pre-operative information was also

clearly seen in a report released by The Swedish Breast Cancer Association [4]. This led our department to implement use of the PEGASUS instrument[29]. The instrument has been incorporated in the protocol and will form a basis for a patient-centred dialogue and emphasise the possibility to make a choice according to preferences, if the patient has any.

The primary and secondary outcomes of the study are based on the published core outcomes set for breast reconstruction, which has been developed by patients and professionals. All outcomes considered important by patients in that previous study have been incorporated into our study.

Funding

The study is funded by the Swedish Cancer Society (grant number 23 3240 S).

Discussion

GoBreast II will mark the first use of an RPPT design to evaluate breast reconstruction methods. The trial builds on GoBreast, which randomised irradiated patients to a DIEP-flap or latissimus dorsi (LD)-flap with an implant and non-irradiated patients to a thoracodorsal flap and implant or implant-based breast reconstruction in two stages [18 52]. The study illustrated the described difficulties with conducting an RCT in breast reconstruction.

Considerations regarding the RPPT design and methodological significance

Development of the RPPT design has the potential to become a standard when preference sensitive treatment options are compared in all disciplines and types of cancer clinical therapy studies. If successful in this trial, we plan to use it to study fundamental questions like immediate vs. delayed breast reconstruction, for which there is very little scientific evidence and thus far no ethically acceptable designs. Through SWATs, the design will also give us

information about how many women prefer the two options and how many women accept randomisation, which will help in planning resource usage in breast reconstruction as well as the design of future studies.

Considerations regarding the included population and equipoise

In the present study, only non-irradiated patients will be included. Non-irradiated patients is the only group in which there is a theoretical equipoise in the reconstructive community, as it is well known that implants and other foreign materials and radiotherapy do not marry well [53]. Therefore, irradiated patients are not included in the present study.

In recent years, the choice of breast reconstruction method might have been increasingly affected by professional conflicts and the individual surgeon's competence rather than the patient's preferences and suitability for different methods [54]. The main conflict is which specialty should perform the reconstruction. In some units, general surgeons specialised in breast surgery, with skills mainly in implant-based breast reconstruction, have assumed responsibility for implant-based breast reconstruction and the primary discussion regarding breast reconstruction. Only patients actively requesting autologous breast reconstruction are referred to a plastic surgeon, who usually has a broader competence in reconstructive methods. The conflict might also have led to that many plastic surgeons actively promote autologous breast reconstruction as this is their best possibility to have patients referred. Hence, the information about different options the patient receives might be biased by the competence and interests of the surgeon [55-57], limiting a shared decision-making process which is essential in preference sensitive interventions [58-62]. The lack of standardised information and access to different options is also reflected in a report published by the Swedish Breast Cancer Association [4]. Moreover, commercial factors, such as marketing of

implants to surgeons and pressure by health insurance companies for patients to undergo implant-based rather than autologous reconstruction, could have an impact on the choice of reconstructive method. These are not factors in Sweden, as the surgeons' pay is independent of method used and the healthcare system is a publicly funded welfare-type healthcare system. In the interest of the patients, the results of a RPPT comparing implant-based and autologous breast reconstruction in non-irradiated could create a basis for a standard on what information patients should receive when facing choices of reconstructive breast surgery and ultimately equal access to care.

Considerations regarding the choice of outcomes

A core outcome set has been developed for breast reconstruction [20]. Core items for patients as well as professionals include major complications, unplanned surgery for any reason, donor site problems/morbidity, normality, quality of life, and women's cosmetic satisfaction [20]. In addition, professionals consider implant-related complications and flap-related complications to be core items, and patients believe self-esteem, emotional well-being, and physical well-being are important outcomes [20]. The core outcomes set forms the basis for the outcomes included in the present study. However, the outcome set does not give any recommendations regarding how the different outcomes should be measured.

Our department conducts a project (*ValPlast*) [ClinicalTrials.gov identifier NCT0523389] where patient-reported outcome instruments and complication classifications are validated for use in Swedish for breast reconstruction and where Swedish norms are created and projects on how complications and other factors affect the outcomes in breast reconstruction [63 64] [ClinicalTrials.gov identifier NCT04714463]. The results form the basis for the choices of instrument in the present study.

Considerations regarding the health economic analysis

A systematic review on health economics in breast reconstruction has demonstrated that there is no high-level evidence, regarding cost-effectiveness, to support recommendations and decisions in breast reconstruction[8]. The review[8] identified several methodological issues, such as a lack of a societal perspective, usage of standardised and validated methods to evaluate benefits, and modelling approaches not compatible with the reconstructive reality. The identified methodological weaknesses have formed the basis of the design of the present study.

Risks with the study

The most prominent operational risk in the project is that autologous reconstruction inherently requires more healthcare resources than implant-based reconstruction. Currently, one autologous reconstruction can be performed a day per operation theatre, while three implant-based reconstructions can be performed. An autologous reconstruction also requires surgeons with skills in microsurgery. Through training fellowships, we have invested in the necessary specialist competence and currently have five surgeons performing autologous reconstruction, allowing for a considerable expansion. We are prepared to reach the target in the randomized groups if there should be an increase in autologous reconstructions. Despite performing about 350-400 reconstructions per year in our department, conceptual risks include difficulties in recruiting participants, especially to the randomized arm, and a low adherence and retention. We expect that it will be easier to recruit when participants know that they will be treated according to their preferences.

Significance

The study could provide evidence of which reconstruction method is superior to increase women's breast-related quality of life and is the most cost-effective for society. This can facilitate the making of guidelines for breast reconstruction in healthcare. Evidence of the cost-effectiveness of alternative treatments can also be used to influence how politicians allocate budget resources so that more women have access to the best methods for breast reconstruction.

Knowledge about women's experiences of choices and the reconstructive process can improve shared decision-making in breast reconstruction and serve as a basis for standardising information and the breast cancer processes and multidisciplinary collaboration regarding reconstruction. The lack of standardised information and access to different options has been illustrated in a report published by the Swedish breast cancer association‡‡‡. Our qualitative studies also have the potential to identify knowledge gaps that should be explored in future studies.

Appendices

Appendix 1: SPIRIT check list

Appendix 2: SPIRIT-Outcomes 2022 Extension items checklist

Appendix 3: Interview guides

Appendix 4: Informed consent material (in Swedish).

Abbreviations

ASA American Society of Anesthesiologists classification

ASI-R the Appearance Schemas Inventory-revised

BMI Body Mass Index

‡‡‡ https://brostcancerforbundet.se/wt/documents/918/Bröstcancerrapport2021final3.pdf

BR breast reconstruction

BRIMP the Swedish breast implant registry

CCI Comprehensive Complication Index

CDC Clavien–Dindo Classification

CRediT Contributor Roles Taxonomy

CRF clinical report form

DIEP deep inferior epigastric perforator flap

DMP data management plan

EQ5D EuroQoL-5 dimensions

GDPR *General Data Protection Regulation* 2016/679

GoBreast the Gothenburg Breast Reconstitution trial

HADS Hospital Anxiety and Depression Scale

ICER incremental cost-effectiveness ratio

IMJC the International Committee of Medical Journal Editors

IPD individual participant data

ITT intention-to-treat

LD latissimus dorsi flap

MBRSQ the Multidimensional Body-Self Relation Questionnaire

MID minimal important difference

NAC nipple-areolar complex

PEGASUS Patients' Expectations and Goals of reconstruction. Assisting Shared Understanding of Surgery

PP per-protocol

QALY quality-adjusted life year

RCT randomized controlled trial

RPPT partially randomised patient preference trial

SAP statistical analysis plan

SPIRIT Standard Protocol Items: Recommendations for Interventional Trials

SWAT study within a trial

t timepoint

VGR Region Västra Götaland

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Authors' contributions

EH: Conceptualisation, methodology, investigation, writing (original draft), visualisation, project administration, and resources. JL: Methodology, writing (reviewing and editing), and project administration. CL: Methodology, writing (reviewing and editing), and patient representative. AU: Methodology, writing (reviewing and editing), and patient representative. EH is the guarantor.

KS: Methodology, writing (reviewing and editing), and patient representative. AG-E: Methodology (statistics), investigation, writing (reviewing and editing). MS: Methodology

(health economics), investigation, writing (reviewing and editing). AP: Methodology, investigation, writing (reviewing and editing), and project administration. All authors read and approved the final manuscript.

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Competing interest statement

None declared.

Patient and public involvement

Official representatives of the Breast Cancer Association have participated in the planning of the study and are co-authors of this protocol (CL, AU, KS).

Figure legends

Figure 1. The partially randomised patient preference trial design (RPPT) and allocation of the patients. Figure by Niclas Löfgren, Department of Plastic and Reconstructive Surgery, Sahlgrenska University Hospital.

Figure 2. Inclusion and exclusion criteria.

ASA American Society of Anesthesiologists classification

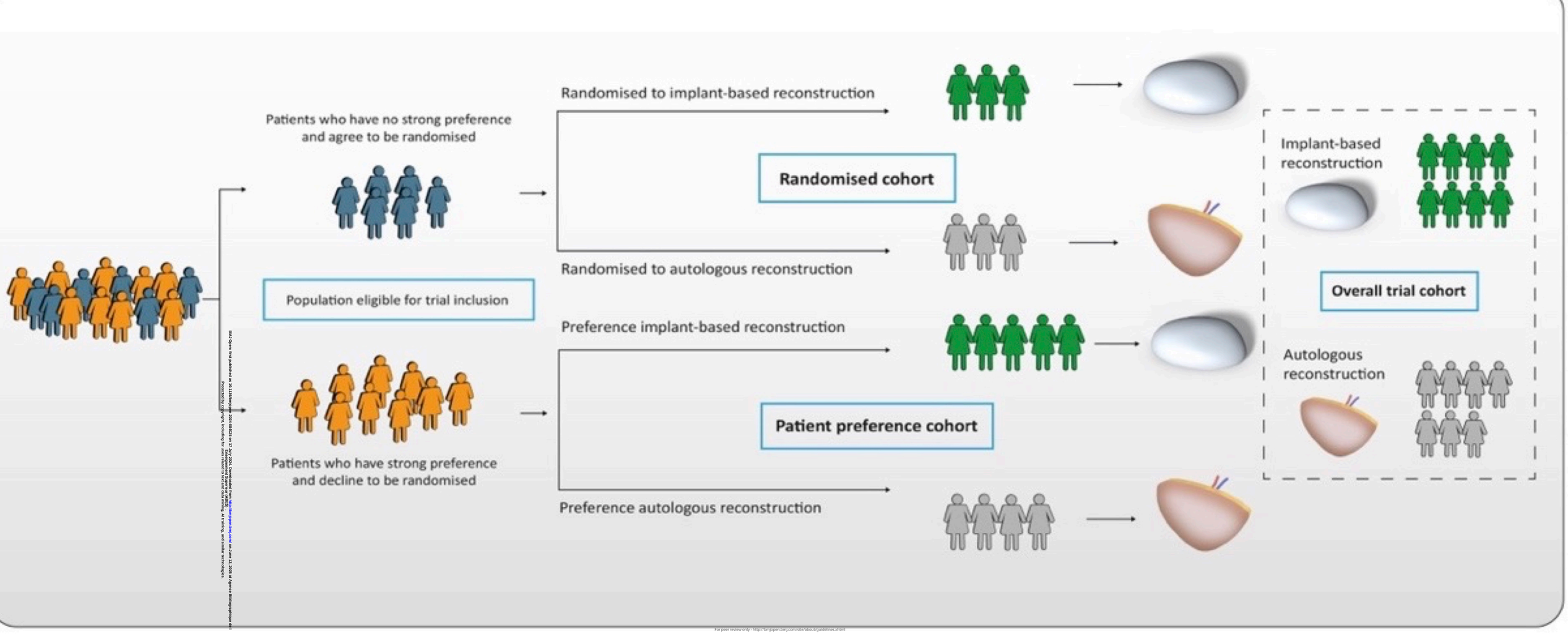
BMI Body Mass Index

DIEP deep inferior epigastric perforator flap

Figure 3. Sample sizes in the randomised and patient preference cohort.

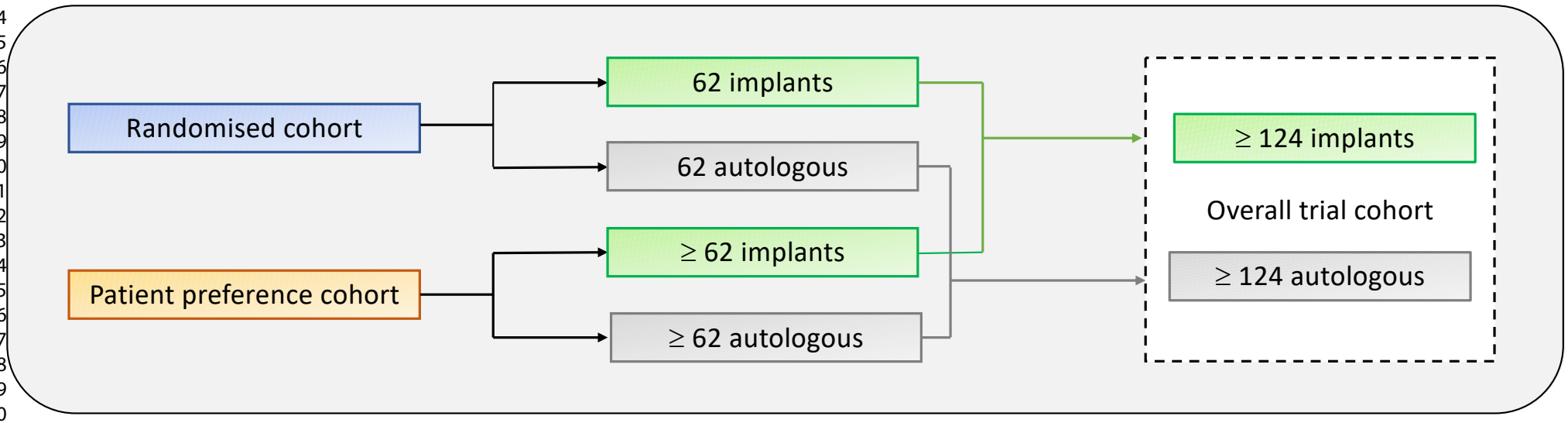
Figure 4. Trial flowchart for the participants

ASI-R the Appearance Schemas Inventory-revised
BR breast reconstruction
CRF clinical report form
EQ5D EuroQoL-5 dimensions
HADS Hospital Anxiety and Depression Scale
MBRSQ the Multidimensional Body-Self Relation Questionnaire
PEGASUS Patients' Expectations and Goals of reconstruction. Assisting Shared Understanding of Surgery
SWAT study within a trial
t timepoint



Inclusion criteria	Exclusion criteria
• Female. • Age ≥ 18 years of age. • ASA (American Society of Anaesthesiologists physical status classification) 1-2. • Patient must have had or be scheduled for a mastectomy. • Ability to give informed consent. • Ability to communicate in Swedish.	• ASA ≥ 3 • BMI > 30 kg/m^2 • Smoking[1]. • Previous radiotherapy to the breast in question. • Radiotherapy is expected post-operatively. • Locally advanced breast cancer • Metastasised breast cancer • Comorbidity and/or drugs that affect wound healing. • Unstable psychiatric co-morbidity • Abdominal scaring/chest scaring[2].

1. Immediate breast reconstruction: to stop smoking when they are informed about the diagnosis and abstain from smoking at least 6 weeks postop. Delayed breast reconstruction: abstain from smoking 6 weeks pre- and 6 weeks postoperatively.
2. Making a DIEP-flap impossible/an implant-based reconstruction unsuitable



	STUDY PERIOD								
	Enrolment		Allocation	Post-allocation					Close-out
TIMEPOINT**	$-t_1$	$-t_2$	0	t_{op}	$t_{3\ m}$	$t_{12\ m}$	$t_{24\ m}$	$t_{36\ m}$	$t_{60\ m}$
ENROLMENT:									
Eligibility screen	X								
Informed consent	X								
PEGASUS		X							
Plastic surgeon visit – Allocation			X						
INTERVENTIONS:									
Autologous BR				X					
Implant-based BR				X		X			
ASSESSMENTS:									
CRF baseline characteristics and demographics			X						
CRF PEGASUS	X								
CRF operation				X					
CRF complications, corrections/revisions				←	—	—	—	—	→
CRF clinical characteristics					X	X			
Expectations			X						
BREAST-Q			X		X	X	X	X	X
EQ5D			X		X	X	X	X	X
HADS			X		X	X	X	X	X
Body image: ASI-R and MBSRQ			X		X	X	X	X	X
Costs and resource use								X	X
Qualitative studies/SWAT			X		X	X			

SPIRIT 2013 Checklist: Recommended items to address in a clinical trial protocol and related documents*

Section/item	Item No	Description	Addressed on page number
Administrative information			
Title	1	Descriptive title identifying the study design, population, interventions, and, if applicable, trial acronym	Title page
Trial registration	2a	Trial identifier and registry name. If not yet registered, name of intended registry	p. 9
	2b	All items from the World Health Organization Trial Registration Data Set	p. 9
Protocol version	3	Date and version identifier	p. 9
Funding	4	Sources and types of financial, material, and other support	p. 24
Roles and responsibilities	5a	Names, affiliations, and roles of protocol contributors	Cover page
	5b	Name and contact information for the trial sponsor	Cover page, pp. 39-40
	5c	Role of study sponsor and funders, if any, in study design; collection, management, analysis, and interpretation of data; writing of the report; and the decision to submit the report for publication, including whether they will have ultimate authority over any of these activities	p. 40
	5d	Composition, roles, and responsibilities of the coordinating centre, steering committee, endpoint adjudication committee, data management team, and other individuals or groups overseeing the trial, if applicable (see Item 21a for data monitoring committee)	NA

Introduction			
Background and rationale	6a	Description of research question and justification for undertaking the trial, including summary of relevant studies (published and unpublished) examining benefits and harms for each intervention	pp. 5-7
	6b	Explanation for choice of comparators	p. 7
Objectives	7	Specific objectives or hypotheses	pp. 7-8
Trial design	8	Description of trial design including type of trial (eg, parallel group, crossover, factorial, single group), allocation ratio, and framework (eg, superiority, equivalence, noninferiority, exploratory)	p. 8
Methods: Participants, interventions, and outcomes			
Study setting	9	Description of study settings (eg, community clinic, academic hospital) and list of countries where data will be collected. Reference to where list of study sites can be obtained	p. 9
Eligibility criteria	10	Inclusion and exclusion criteria for participants. If applicable, eligibility criteria for study centres and individuals who will perform the interventions (eg, surgeons, psychotherapists)	p. 10 (Figure 2)
Interventions	11a	Interventions for each group with sufficient detail to allow replication, including how and when they will be administered	pp. 10-12
	11b	Criteria for discontinuing or modifying allocated interventions for a given trial participant (eg, drug dose change in response to harms, participant request, or improving/worsening disease)	p. 12
	11c	Strategies to improve adherence to intervention protocols, and any procedures for monitoring adherence (eg, drug tablet return, laboratory tests)	p. 19
	11d	Relevant concomitant care and interventions that are permitted or prohibited during the trial	p.12
Outcomes	12	Primary, secondary, and other outcomes, including the specific measurement variable (eg, systolic blood pressure), analysis metric (eg, change from baseline, final value, time to event), method of aggregation (eg, median, proportion), and time point for each outcome. Explanation of the clinical relevance of chosen efficacy and harm outcomes is strongly recommended	pp. 13-15
Participant timeline	13	Time schedule of enrolment, interventions (including any run-ins and washouts), assessments, and visits for participants. A schematic diagram is highly recommended (see Figure)	Figure 4

Sample size	14	Estimated number of participants needed to achieve study objectives and how it was determined, including clinical and statistical assumptions supporting any sample size calculations	p. 10, Figure 3
Recruitment	15	Strategies for achieving adequate participant enrolment to reach target sample size	pp. 10, 16
Methods: Assignment of interventions (for controlled trials)			
Allocation:			
Sequence generation	16a	Method of generating the allocation sequence (eg, computer-generated random numbers), and list of any factors for stratification. To reduce predictability of a random sequence, details of any planned restriction (eg, blocking) should be provided in a separate document that is unavailable to those who enrol participants or assign interventions	p. 13
Allocation concealment mechanism	16b	Mechanism of implementing the allocation sequence (eg, central telephone; sequentially numbered, opaque, sealed envelopes), describing any steps to conceal the sequence until interventions are assigned	p. 13
Implementation	16c	Who will generate the allocation sequence, who will enrol participants, and who will assign participants to interventions	p. 13
Blinding (masking)	17a	Who will be blinded after assignment to interventions (eg, trial participants, care providers, outcome assessors, data analysts), and how	NA
	17b	If blinded, circumstances under which unblinding is permissible, and procedure for revealing a participant's allocated intervention during the trial	NA
Methods: Data collection, management, and analysis			
Data collection methods	18a	Plans for assessment and collection of outcome, baseline, and other trial data, including any related processes to promote data quality (eg, duplicate measurements, training of assessors) and a description of study instruments (eg, questionnaires, laboratory tests) along with their reliability and validity, if known. Reference to where data collection forms can be found, if not in the protocol	pp. 17, 19
	18b	Plans to promote participant retention and complete follow-up, including list of any outcome data to be collected for participants who discontinue or deviate from intervention protocols	p. 19

Data management	19	Plans for data entry, coding, security, and storage, including any related processes to promote data quality (eg, double data entry; range checks for data values). Reference to where details of data management procedures can be found, if not in the protocol	p. 20
Statistical methods	20a	Statistical methods for analysing primary and secondary outcomes. Reference to where other details of the statistical analysis plan can be found, if not in the protocol	pp. 17-18
	20b	Methods for any additional analyses (eg, subgroup and adjusted analyses)	pp. 16-18
	20c	Definition of analysis population relating to protocol non-adherence (eg, as randomised analysis), and any statistical methods to handle missing data (eg, multiple imputation)	pp. 17-18
Methods: Monitoring			
Data monitoring	21a	Composition of data monitoring committee (DMC); summary of its role and reporting structure; statement of whether it is independent from the sponsor and competing interests; and reference to where further details about its charter can be found, if not in the protocol. Alternatively, an explanation of why a DMC is not needed	pp. 20-21
	21b	Description of any interim analyses and stopping guidelines, including who will have access to these interim results and make the final decision to terminate the trial	NA
Harms	22	Plans for collecting, assessing, reporting, and managing solicited and spontaneously reported adverse events and other unintended effects of trial interventions or trial conduct	p. 21
Auditing	23	Frequency and procedures for auditing trial conduct, if any, and whether the process will be independent from investigators and the sponsor	pp. 20-21
Ethics and dissemination			
Research ethics approval	24	Plans for seeking research ethics committee/institutional review board (REC/IRB) approval	p. 22
Protocol amendments	25	Plans for communicating important protocol modifications (eg, changes to eligibility criteria, outcomes, analyses) to relevant parties (eg, investigators, REC/IRBs, trial participants, trial registries, journals, regulators)	p. 22

Consent or assent	26a	Who will obtain informed consent or assent from potential trial participants or authorised surrogates, and how (see Item 32)	p. 22
	26b	Additional consent provisions for collection and use of participant data and biological specimens in ancillary studies, if applicable	p. 22
Confidentiality	27	How personal information about potential and enrolled participants will be collected, shared, and maintained in order to protect confidentiality before, during, and after the trial	pp. 20-21
Declaration of interests	28	Financial and other competing interests for principal investigators for the overall trial and each study site	p. 22
Access to data	29	Statement of who will have access to the final trial dataset, and disclosure of contractual agreements that limit such access for investigators	pp. 20-21
Ancillary and post-trial care	30	Provisions, if any, for ancillary and post-trial care, and for compensation to those who suffer harm from trial participation	p. 21
Dissemination policy	31a	Plans for investigators and sponsor to communicate trial results to participants, healthcare professionals, the public, and other relevant groups (eg, via publication, reporting in results databases, or other data sharing arrangements), including any publication restrictions	pp. 22-23
	31b	Authorship eligibility guidelines and any intended use of professional writers	pp. 22-23
	31c	Plans, if any, for granting public access to the full protocol, participant-level dataset, and statistical code	p. 20
Appendices			
Informed consent materials	32	Model consent form and other related documentation given to participants and authorised surrogates	Appendices
Biological specimens	33	Plans for collection, laboratory evaluation, and storage of biological specimens for genetic or molecular analysis in the current trial and for future use in ancillary studies, if applicable	NA

*It is strongly recommended that this checklist be read in conjunction with the SPIRIT 2013 Explanation & Elaboration for important clarification on the items. Amendments to the protocol should be tracked and dated. The SPIRIT checklist is copyrighted by the SPIRIT Group under the Creative Commons "Attribution-NonCommercial-NoDerivs 3.0 Unported" license.

SPIRIT-Outcomes 2022 Extension items only (for separate completion of SPIRIT 2013 and SPIRIT-Outcomes 2022 items)[a]

Section	Item No.	SPIRIT-Outcomes 2022 item	Location Reported[b]
Methods: Participants, interventions, and outcomes			
Outcomes	12.1	Provide a rationale for the selection of the domain for the trial's primary outcome	
	12.2	If the analysis metric for the primary outcome represents within-participant change, define and justify the minimal important change in individuals	
	12.3	If the outcome data collected are continuous but will be analyzed as categorical (method of aggregation), specify the cutoff values to be used	
	12.4	If outcome assessments will be performed at several time points after randomization, state the time points that will be used for analysis	
	12.5	If a composite outcome is used, define all individual components of the composite outcome	
Sample size	14.1	Define and justify the target difference between treatment groups (eg, the minimal important difference)	
Methods: Data collection, management, and analysis			
Data collection methods	18a.1	Describe what is known about the responsiveness of the study instruments in a population similar to the study sample	
	18a.2	Describe who will assess the outcome (eg, nurse, parent)	
Statistical methods	20a.1	Describe any planned methods to account for multiplicity in the analysis or interpretation of the primary and secondary outcomes (eg, coprimary outcomes, same outcome assessed at multiple time points, or subgroup analyses of an outcome)	

[a]It is strongly recommended that this checklist be read in conjunction with the SPIRIT (Standard Protocol Items: Recommendations for Interventional Trials) Statement paper for important clarification on the items. Amendments to the protocol should be tracked and dated. The SPIRIT checklist is copyrighted by the SPIRIT Group under the Creative Commons "Attribution-NonCommercial-NoDerivs 3.0 Unported" license and is reproduced with permission.

[b]Indicates page numbers and/or manuscript location: to be completed by authors during trial protocol development.

GoBreast II: Interview guides

The choice to undergo reconstruction and the choice of method

The overall aim of the study will be to investigate how women who have had breast reconstruction experience the process.

• What do you think today about your reconstruction and your choice?
• How would you describe your relationship with your breasts before your breast cancer/risk-reducing mastectomy?
• What information about different surgical methods to remove the tumour did you get?
• What recommendations did you receive regarding surgical treatment?
• What do you think about the choices and the information you received afterwards?
• What would you have liked to know before the operation?
• What were your expectations for/goals with the breast reconstruction?
• Did you think it was easy to decide whether you wanted breast reconstruction or not?
• Who did you discuss breast reconstruction with? (patient association, relative, friend, etc.)
• Did you feel any pressure from anyone else to have breast reconstruction?
• How did you experience the information you received from the healthcare provider about breast reconstruction?
• Did you feel involved in the decisions that were made regarding breast reconstruction?
• Do you regret any of the decisions you made (that were made)? Would you have chosen differently if you had had the experiences you have today?
• Would you have liked some other form of help to make decisions about breast reconstruction?

High degree of satisfaction or strong dissatisfaction with the breast reconstruction?

The overall aim of the study will be to investigate how women describe what it is that makes them feel very satisfied or very dissatisfied with their breast reconstruction.

• The process up to reconstruction.
• The own choice. Did you feel involved in the decisions that were made regarding breast reconstruction?
• Would you have liked some other form of help to make decisions about breast reconstruction?
• How did you perceive the information you received from the health care system regarding breast reconstruction?
• Did you receive any recommendations for reconstruction?
• How would you describe your relationship with your breasts before your breast cancer/risk-reducing mastectomy?
• Did you feel any pressure from anyone else/external pressure to have breast reconstruction?
• What went well/as you imagined? What went bad/not as you expected?

• What were your expectations before the breast reconstruction/goals with the reconstruction?
• Do you regret any of the decisions you made (that were made)? Would you have chosen differently if you had had the experiences you have today?
• Do you feel that the health care system should have done/handled something differently?
• Did you discuss possibilities and limitations and what is possible to achieve with your surgeon?
• Has your surgeon recommended any corrections?
• How would you have like it to be (process, choice, outcome)?
• Do you feel that you have changed as a person? Do others see/treat you differently because of what happened to your breasts?

SWAT

• How did you experience the inclusion in the study?
• What did you think of the choice between choosing yourself or being randomized to a method?
• Do you have any suggestions regarding how the process can be improved? How do you think we can increase participation and increase questionnaire response rates?
• What do you think about the research person information?
• What did you like most/least about the study?

Information till forskningspersoner

Vi vill fråga dig om du vill delta i ett forskningsprojekt. I det här dokumentet får du information om projektet och om vad det innebär att delta.

Vad är det för ett projekt och varför vill ni att jag ska delta?

I detta forskningsprojekt önskar vi jämföra två metoder för bröstrekonstruktion, återskapande av bröst, vid cancer/hög risk för cancer: kroppsegen och implantatbaserad teknik. Du tillfrågas då ditt/dina bröst planeras opereras bort/har opererats bort.

Enligt nuvarande riktlinjer erbjuds kroppsegen rekonstruktion främst till kvinnor som har fått strålbehandling då kroppsegen bröstrekonstruktion är en resurskrävande operation och det är de som fått strålbehandling som har störst behov av tillförsel av icke-strålad vävnad till området. Kvinnor som inte har fått strålbehandling erbjuds enligt riktlinjerna främst implantatbaserad rekonstruktion.

I detta projekt önskar vi jämföra om kvinnor som inte har fått strålbehandling blir mest nöjda med kroppsegen eller implantatbaserad rekonstruktion, s.k. patientrapporterat utfall. De två metoderna kommer också att jämföras med avseende på komplikationer och kostnadseffektivitet på lång sikt.

Den högsta vetenskapliga bevisnivå anser man att man får då man gör en s.k. randomiserad studie där studiedeltagaren lottas till ett av de två behandlingsalternativen och studien kommer därför ha denna design. Eftersom bröstrekonstruktion är en s.k. preferenssensitiv åtgärd där många kvinnor har starka önskemål om att bli opererad med en viss metod kommer det vara möjligt att avstå lottning och själv välja metod om du önskar det. Datan från denna studie kommer även att användas för att studera den vetenskapliga metoden att låta vissa deltagare välja och lotta andra deltagare samt om det finns skillnader mellan de två grupperna, t.ex. vad gäller demografi eller mål med rekonstruktion.

Forskningshuvudman för projektet är Verksamhet plastikkirurgi, Sahlgrenska universitetssjukhuset, Västra Götalandsregionen och Göteborgs universitet. Med forskningshuvudman menas den organisation som är ansvarig för projektet. Ansökan är godkänd av Etikprövningsmyndigheten, diarienummer för prövningen hos Etikprövningsmyndigheten är 2023-04754-01

Hur går projektet till?

Ett deltagande innebär att du antingen lottas till kroppsegen eller implantatbaserad rekonstruktion (lottad grupp) eller själv välja vilken metod du vill bli opererad med, om du har starka önskemål kring metod (preferensgrupp). Innan du lottas/väljer metod kommer du

att få träffa först sjuksköterska eller psykolog vid ett besök för att diskutera dina mål med en rekonstruktion och sedan plastikkirurg vid ett andra besök för att diskutera olika tekniker. Dina mål med rekonstruktionen kommer att dokumenteras enligt en modell som heter PEGASUS.

Innan och efter operationen (3, 12, 24, 36 och 60 månader efter) kommer du att få svara på enkäter angående din nöjdhet med operationen, resultatet och vården samt hur du mår i övrigt. Det tar ungefär 20 minuter att fylla i enkäterna vid vart tillfälle. ***Det är mycket viktigt att du kan tänka dig ta dig tiden att fylla i enkäterna vid alla tillfällen, för att vi ska kunna få ett pålitligt resultat.*** Förutom lottning/val av teknik kommer vården att vara exakt den samma som om du inte hade deltagit i studien. Studien innebär inga extra besök på sjukhus efter operationen, än de som du skulle ha gått på om du inte deltar i studien.

Möjliga följder och risker med att delta i projektet

Om du deltar i projektet kommer du att få samma behandling som om du inte hade deltagit i projektet, med undantag att du som icke-strålad kan komma att opereras med kroppsegen i stället för implantatbaserad rekonstruktion. Både kroppsegen och implantatbaserad bröstrekonstruktion är rutinbehandling som utförs varje vecka på sjukhuset och som Sahlgrenska har utfört sedan 1970-talet.

Då projektet innebär att du svarar på enkäter innan och vid 5 tillfällen efter operationen innebär det att du kommer att bidra med din tid till forskningsprojektet, utan att få ekonomisk ersättning för detta. Att svara på enkäterna skulle också kunna innebära att du påminns om tidigare cancerbehandling/cancerriskreducerande behandling, vilket kan vara känslomässigt obehagligt. Om du önskar ytterligare hjälp att bearbeta dina upplevelser är du välkommen att höra av dig till plastikkirurgen, så lotsar vi dig rätt i sjukvårdssystemet.

Vad händer med mina uppgifter?

Projektet kommer att samla in och registrera information om dig.

Enkäterna kommer att kodas och förvaras inlåsta. De kommer att arkiveras i 25 år. Kodlistan kommer att förvaras inlåst och separerad från enkäterna. Du kommer antingen få enkäterna i samband med mottagningsbesök eller hemskickade till dig med ett frankerat svarskuvert.

För att kunna tolka enkätsvaren kommer vi att samla in data från din journal. Detta inkluderar detaljer kring tidigare sjukdomar, den/de operation/er du genomgått samt om orsakerna till att du opererats, dina mål med rekonstruktionen, ditt hälsotillstånd vid operationstillfället samt information kring vårdförloppet (t.ex. antal besök på mottagningen och recept på smärtstillande).

För att kunna undersöka kostnadseffektivitet kommer vi också inhämta data från Västra Götalands databas kring annan vård som du har haft behov av under perioden, t.ex. från din vårdcentral eller från andra kliniker, samt från Försäkringskassan angående din sjukskrivningslängd och ytterligare behov av sjukskrivning.

Informationen kommer bara vara tillgänglig för forskningspersonerna och förvaras i kodad form, så de inte kan härledas till dig. Uppgifterna skyddas som journalhandling

Den rättsliga grunden för databehandlingen enligt EU:s dataskyddsförordning är att den är nödvändig för att utföra en uppgift av allmänt intresse och som ett led i Västra Götalands myndighetsutövning, dvs. uppgiften att utföra forskning (artikel 6 e).

Dina svar och dina resultat kommer att behandlas så att inte obehöriga kan ta del av dem.

Ansvarig för dina personuppgifter är Verksamhet plastikkirurgi, Sahlgrenska universitetssjukhuset, Västra Götalandsregionen. Enligt EU:s dataskyddsförordning har du rätt att kostnadsfritt få ta del av de uppgifter om dig som hanteras i projektet, och vid behov få eventuella fel rättade. Du kan också begära att uppgifter om dig raderas samt att behandlingen av dina personuppgifter begränsas. Rätten till radering och till begränsning av behandling av personuppgifter gäller dock inte när uppgifterna är nödvändiga för den aktuella forskningen. Om du vill ta del av uppgifterna ska du kontakta huvudansvarig forskare Emma Hansson, Gröna Stråket 8, 413 45 Göteborg. Tel. 031-3423700. Dataskyddsombud nås på sahlgrenska.universitetssjukhuset.dso@vgregion.se . Om du är missnöjd med hur dina personuppgifter behandlas har du rätt att ge in klagomål till Integritetsskyddsmyndigheten, som är tillsynsmyndighet.

Hur får jag information om resultatet av projektet?

Resultatet kommer att presenteras på gruppnivå i vetenskapliga artiklar. Om du önskar kopia på den data som finns kring dig kan du begära kopia av dina enkätsvar från projektansvariga (kontaktuppgifter i slutet på denna information).

Försäkring och ersättning

Sedvanlig patientskadeförsäkring gäller. Ingen ersättning utgår för deltagande i projektet.

Deltagandet är frivilligt

Ditt deltagande är frivilligt och du kan när som helst välja att avbryta deltagandet. Om du väljer att inte delta eller vill avbryta ditt deltagande behöver du inte uppge varför, och det kommer inte heller att påverka din framtida vård eller behandling.

Om du vill avbryta ditt deltagande ska du kontakta den ansvariga för projektet (se nedan).

Ansvariga för projektet

Kroppsegen jämfört med implantatbaserad bröstrekonstruktion - en delvis lottad patientpreferensstudie med 5 års uppföljning (GoBreast II)

Randomiserad kohort och preferenskohort v. 231009

Ansvariga för projektet är FOU-sjuksköterska Susanne Meyer, susanne.meyer@vgregion.se Lektor Anna Paganini, specialistsjuksköterska, med dr. anna.paganini@vgregion.se, prof. Emma Hansson, öl, emma.em.hansson@vgregion.se Alla tre nås på: Verksamhet plastikkirurgi, Sahlgrenska universitetssjukhuset, Gröna Stråket 8, 413 45 Göteborg. Tel. 031-3423700 .

Samtycke till att delta i projektet

Jag har fått muntlig och/eller skriftlig information om studien och har haft möjlighet att ställa frågor. Jag får behålla den skriftliga informationen.

☐ Jag samtycker till att delta i projektet *Kroppsegen jämfört med implantatbaserad bröstrekonstruktion - en delvis lottad patientpreferensstudie med 5 års uppföljning (GoBreast II)*
Randomiserad kohort och preferenskohort

Plats och datum	Underskrift
	Namnförtydligande

Kroppsegen jämfört med implantatbaserad bröstrekonstruktion - en delvis lottad patientpreferensstudie med 5 års uppföljning (GoBreast II)

Intervju kring forskningsmetodologin lotta/välja (SWAT)

v. 231009

Information till forskningspersoner

Vi vill fråga dig om du vill delta i ett forskningsprojekt. I det här dokumentet får du information om projektet och om vad det innebär att delta.

Vad är det för ett projekt och varför vill ni att jag ska delta?

I detta forskningsprojekt önskar vi undersöka dina upplevelser och erfarenheter kring att delta i GoBreast II, där du antingen har lottats eller valt mellan två metoder för bröstrekonstruktion. Denna studiedesign har tidigare aldrig använts för att studera olika s.k. preferenssensitiva åtgärder inom bröstrekonstruktion och syftet med denna del av projektet är att förfina metodologin inför framtida studier av preferenssensitiva åtgärder inom bröstcancervården i stort. Du tillfrågas om deltagande då du deltar i studien GoBreast II.

Forskningshuvudman för projektet är Västra Götalandsregionen. Med forskningshuvudman menas den organisation som är ansvarig för projektet. Ansökan är godkänd av Etikprövningsmyndigheten, diarienummer för prövningen hos Etikprövningsmyndigheten är 2023-04754-01

Hur går projektet till?

Ett deltagande innebär att du kommer att kallas för en intervju med frågor kring din upplevelse av att delta i GoBreast II samt vad du tycker bör ändras/kan förbättras. Intervjun kommer att utföras av en psykolog/psykologstudent eller en sjuksköterska eller en läkare.

Intervjun sker vid ett tillfälle och tar cirka 2 timmar och genomförs där du själv önskar (sjukhuset/hemma hos dig/på din arbetsplats) eller online (Zoom eller Teams).

Studiedeltagande innebär inga andra åtaganden från din sida och kommer inte påverka den vård eller det bemötande du får inom sjukvården

Möjliga följder och risker med att delta i projektet

Deltagande i projektet i studien skulle kunna leda till att gamla känslor kring bröstcancer och dess behandling väcks till liv. I fall det visar sig att du behöver ytterligare hjälp att bearbeta dina upplevelser kommer de forskningsansvariga att ombesörja att du remitteras till rätt vårdinstans för att få sådan hjälp.

Vad händer med mina uppgifter?

Projektet kommer att samla in och registrera information om dig.

Intervjuerna kommer att spelas in och sedan skrivas ut (transkriberas) anonymt. Texterna kommer att förvars kodade och inlåsta. Kodlistan kommer att förvaras inlåst och separerad

från utskrift från intervjuer. Texterna och inspelningarna kommer att arkiveras i 25 år. Informationen kommer bara vara tillgänglig för forskningspersonerna och förvaras i kodad form, så den inte kan härledas till dig. Uppgifterna skyddas som journalhandling. För att kunna tolka svaren kommer vi även att använda sedan data kring din behandling den/de operation/er du genomgått samt om orsakerna till att du opererats, ditt hälsotillstånd (t.ex. tobaksanvändning, vikt och längd) och ålder vid operationstillfället, som tidigare samlats in inom ramen för GoBreast II.

Dina svar och dina resultat kommer att behandlas så att inte obehöriga kan ta del av dem. Ansvarig för dina personuppgifter (personuppgiftsansvarig) är Västra Götalandsregionen. Enligt EU:s dataskyddsförordning har du rätt att kostnadsfritt få ta del av de uppgifter om dig som hanteras i projektet, och vid behov få eventuella fel rättade. Du kan också begära att uppgifter om dig raderas samt att behandlingen av dina personuppgifter begränsas. Rätten till radering och till begränsning av behandling av personuppgifter gäller dock inte när uppgifterna är nödvändiga för den aktuella forskningen. Om du vill ta del av uppgifterna ska du kontakta huvudansvarig forskare Emma Hansson, Gröna Stråket 8, 413 45 Göteborg. Tel. 031-3423700. Dataskyddsombud nås på sahlgrenska.universitetssjukhuset.dso@vgregion.se . Om du är missnöjd med hur dina personuppgifter behandlas har du rätt att ge in klagomål till Integritetsskyddsmyndigheten, som är tillsynsmyndighet.

Hur får jag information om resultatet av projektet?

Resultatet kommer att presenteras på gruppnivå i vetenskapliga artiklar. Om du önskar kopia på din utskriva intervju kontaktar du forskningssjuksköterskan (kontaktuppgifter sist i detta dokument).

Försäkring och ersättning

Sedvanlig patientskadeförsäkring gäller. Ingen ersättning utgår för deltagande i projektet.

Deltagandet är frivilligt

Ditt deltagande är frivilligt och du kan när som helst välja att avbryta deltagandet. Om du väljer att inte delta eller vill avbryta ditt deltagande behöver du inte uppge varför, och det kommer inte heller att påverka din framtida vård eller behandling.

Om du vill avbryta ditt deltagande ska du kontakta den ansvariga för projektet (se nedan).

Ansvariga för projektet

Ansvariga för projektet är FOU-sjuksköterska Susanne Meyer, susanne.meyer@vgregion.se Lektor Anna Paganini, specialistsjuksköterska, med dr. anna.paganini@vgregion.se, prof. Emma Hansson, öl, emma.em.hansson@vgregion.se Alla tre nås på: Verksamhet

plastikkirurgi, Sahlgrenska universitetssjukhuset, Gröna Stråket 8, 413 45 Göteborg. Tel. 031-3423700 .

Samtycke till att delta i projektet

Jag har fått muntlig och/eller skriftlig information om studien och har haft möjlighet att ställa frågor. Jag får behålla den skriftliga informationen.

☐ Jag samtycker till att delta i projektet *Kroppsegen jämfört med implantatbaserad bröstrekonstruktion - en delvis lottad patientpreferensstudie med 5 års uppföljning (GoBreast II)*
Intervju kring metodologin lotta/välja (SWAT

Plats och datum	Underskrift
	Namnförtydligande

Kroppsegen jämfört med implantatbaserad bröstrekonstruktion - en delvis lottad patientpreferensstudie med 5 års uppföljning (GoBreast II)

Intervju kring forskningsmetodologin lotta/välja - personal (SWAT)

v. 231009

Information till forskningspersoner

Vi vill fråga dig om du vill delta i ett forskningsprojekt. I det här dokumentet får du information om projektet och om vad det innebär att delta.

Vad är det för ett projekt och varför vill ni att jag ska delta?

I detta forskningsprojekt önskar vi undersöka dina upplevelser och erfarenheter kring att rekrytera, operera och ta hand om patienter i GoBreast II-studien. Denna studiedesign har tidigare aldrig använts för att studera olika s.k. preferenssensitiva åtgärder inom bröstrekonstruktion och syftet med denna del av projektet är att förfina metodologin inför framtida studier av preferenssensitiva åtgärder inom bröstcancervården i stort. Du tillfrågas om deltagande då du har rekryterat/opererat/tagit hand om patienter inom ramen för studien GoBreast II.

Forskningshuvudman för projektet är Västra Götalandsregionen. Med forskningshuvudman menas den organisation som är ansvarig för projektet. Ansökan är godkänd av Etikprövningsmyndigheten, diarienummer för prövningen hos Etikprövningsmyndigheten är 2023-04754-01.

Hur går projektet till?

Ett deltagande innebär att du kommer att kallas för en intervju med frågor kring din upplevelse av att delta i GoBreast II samt vad du tycker bör ändras/kan förbättras. Intervjun kommer att utföras av en psykolog/psykologstudent eller en sjuksköterska eller en läkare.

Intervjun sker vid ett tillfälle och tar cirka 2 timmar och genomförs på sjukhuset eller online (Zoom eller Teams).

Möjliga följder och risker med att delta i projektet

Deltagandet i projektet innebär inga risker för dig som sjukvårdspersonal.

Vad händer med mina uppgifter?

Projektet kommer att samla in och registrera information om dig.

Intervjuerna kommer att spelas in och sedan skrivas ut (transkriberas) anonymt. Texterna kommer att förvars kodade och inlåsta. Kodlistan kommer att förvaras inlåst och separerad från utskrift från intervjuer. Texterna och inspelningarna kommer att arkiveras i 25 år. Informationen kommer bara vara tillgänglig för forskningspersonerna och förvaras i kodad form, så den inte kan härledas till dig. Uppgifterna skyddas som journalhandling. För att

kunna tolka svaren kommer vi även att samla information kring vilken profession du tillhör samt vilken roll du haft i GoBreast II.

Dina svar och dina resultat kommer att behandlas så att inte obehöriga kan ta del av dem.

Ansvarig för dina personuppgifter (personuppgiftsansvarig) är Västra Götalandsregionen. Enligt EU:s dataskyddsförordning har du rätt att kostnadsfritt få ta del av de uppgifter om dig som hanteras i projektet, och vid behov få eventuella fel rättade. Du kan också begära att uppgifter om dig raderas samt att behandlingen av dina personuppgifter begränsas. Rätten till radering och till begränsning av behandling av personuppgifter gäller dock inte när uppgifterna är nödvändiga för den aktuella forskningen. Om du vill ta del av uppgifterna ska du kontakta huvudansvarig forskare Emma Hansson, Gröna Stråket 8, 413 45 Göteborg. Tel. 031-3423700. Dataskyddsombud nås på sahlgrenska.universitetssjukhuset.dso@vgregion.se . Om du är missnöjd med hur dina personuppgifter behandlas har du rätt att ge in klagomål till Integritetsskyddsmyndigheten, som är tillsynsmyndighet.

Hur får jag information om resultatet av projektet?

Resultatet kommer att presenteras på gruppnivå i vetenskapliga artiklar. Om du önskar kopia på din utskriva intervju kontaktar du forskningssjuksköterskan (kontaktuppgifter sist i detta dokument).

Försäkring och ersättning

Sedvanlig patientskadeförsäkring gäller. Ingen ersättning utgår för deltagande i projektet.

Deltagandet är frivilligt

Ditt deltagande är frivilligt och du kan när som helst välja att avbryta deltagandet. Om du väljer att inte delta eller vill avbryta ditt deltagande behöver du inte uppge varför.

Om du vill avbryta ditt deltagande ska du kontakta den ansvariga för projektet (se nedan).

Ansvariga för projektet

Ansvariga för projektet är FOU-sjuksköterska Susanne Meyer, susanne.meyer@vgregion.se Lektor Anna Paganini, specialistsjuksköterska, med dr. anna.paganini@vgregion.se, prof. Emma Hansson, öl, emma.em.hansson@vgregion.se Alla tre nås på: Verksamhet plastikkirurgi, Sahlgrenska universitetssjukhuset, Gröna Stråket 8, 413 45 Göteborg. Tel. 031-3423700 .

Samtycke till att delta i projektet

Jag har fått muntlig och/eller skriftlig information om studien och har haft möjlighet att ställa frågor. Jag får behålla den skriftliga informationen.

☐ Jag samtycker till att delta i projektet *Kroppsegen jämfört med implantatbaserad bröstrekonstruktion - en delvis lottad patientpreferensstudie med 5 års uppföljning (GoBreast II)*
Intervju kring metodologin lotta/välja personal (SWAT)

Plats och datum	Underskrift
	Namnförtydligande

Information till forskningspersoner

Vi vill fråga dig om du vill delta i ett forskningsprojekt. I det här dokumentet får du information om projektet och om vad det innebär att delta.

Vad är det för ett projekt och varför vill ni att jag ska delta?

I detta forskningsprojekt önskar vi undersöka vad det är som att man blir väldigt nöjd eller väldigt missnöjd med en bröstrekonstruktion. Syftet är förbättra omhändertagandet av framtida patienter som önskar bröstrekonstruktion. Du tillfrågas om deltagande då du deltar i studien GoBreast II och har poängsatt ditt resultat som väldigt bra/väldigt dåligt.

Forskningshuvudman för projektet är Västra Götalandsregionen . Med forskningshuvudman menas den organisation som är ansvarig för projektet. Ansökan är godkänd av Etikprövningsmyndigheten, diarienummer för prövningen hos Etikprövningsmyndigheten är 2023-04754-01

Hur går projektet till?

Ett deltagande innebär att du kommer att kallas för en intervju med frågor kring vad som gjort dig väldigt nöjd/väldigt missnöjd. Intervjun kommer att utföras av en psykolog/psykologstudent, en sjuksköterska eller en läkare.

Intervjun sker vid ett tillfälle och tar cirka 2 timmar och genomförs där du själv önskar (sjukhuset/hemma hos dig/på din arbetsplats) eller online (Zoom eller Teams).

Studiedeltagande innebär inga andra åtaganden från din sida och kommer inte påverka den vård eller det bemötande du får inom sjukvården

Möjliga följder och risker med att delta i projektet

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Vad händer med mina uppgifter?

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Intervjuerna kommer att spelas in och sedan skrivas ut (transkriberas) anonymt. Texterna kommer att förvars kodade och inlåsta. Kodlistan kommer att förvaras inlåst och separerad från utskrift från intervjuer. Texterna och inspelningarna kommer att arkiveras i 25 år.

Informationen kommer bara vara tillgänglig för forskningspersonerna och förvaras i kodad form, så de inte kan härledas till dig. Uppgifterna skyddas som journalhandling. För att kunna tolka svaren kommer vi även att använda sedan data kring din behandling den/de operation/er du genomgått samt om orsakerna till att du opererats, ditt hälsotillstånd (t.ex. tobaksanvändning, vikt och längd), ålder vid operationstillfället och den lista över mål med rekonstruktion du kom fram till innan operationen (PEGASUS), som tidigare samlats in inom ramen för GoBreast II.

Dina svar och dina resultat kommer att behandlas så att inte obehöriga kan ta del av dem.

Ansvarig för dina personuppgifter (personuppgiftsansansvarig) är Västra Götalandsregionen. Enligt EU:s dataskyddsförordning har du rätt att kostnadsfritt få ta del av de uppgifter om dig som hanteras i projektet, och vid behov få eventuella fel rättade. Du kan också begära att uppgifter om dig raderas samt att behandlingen av dina personuppgifter begränsas. Rätten till radering och till begränsning av behandling av personuppgifter gäller dock inte när uppgifterna är nödvändiga för den aktuella forskningen. Om du vill ta del av uppgifterna ska du kontakta huvudansvarig forskare Emma Hansson, Gröna Stråket 8, 413 45 Göteborg. Tel. 031-3423700. Dataskyddsombud nås på sahlgrenska.universitetssjukhuset.dso@vgregion.se . Om du är missnöjd med hur dina personuppgifter behandlas har du rätt att ge in klagomål till Integritetsskyddsmyndigheten, som är tillsynsmyndighet.

Hur får jag information om resultatet av projektet?

Resultatet kommer att presenteras på gruppnivå i vetenskapliga artiklar. Om du önskar kopia på din utskriva intervju kontaktar du forskningssjuksköterskan (kontaktuppgifter sist i detta dokument).

Försäkring och ersättning

Sedvanlig patientskadeförsäkring gäller. Ingen ersättning utgår för deltagande i projektet.

Deltagandet är frivilligt

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Ansvariga för projektet

Ansvariga för projektet är FOU-sjuksköterska Susanne Meyer, susanne.meyer@vgregion.se
Lektor Anna Paganini, specialistsjuksköterska, med dr. anna.paganini@vgregion.se, prof.

Kroppsegen jämfört med implantatbaserad bröstrekonstruktion - en delvis lottad patientpreferensstudie med 5 års uppföljning (GoBreast II)

Intervju kring nöjdhet/missnöjdhet v. 231009

Emma Hansson, öl, emma.em.hansson@vgregion.se Alla tre nås på: Verksamhet plastikkirurgi, Sahlgrenska universitetssjukhuset, Gröna Stråket 8, 413 45 Göteborg. Tel. 031-3423700.

Samtycke till att delta i projektet

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☐ Jag samtycker till att delta i projektet *Kroppsegen jämfört med implantatbaserad bröstrekonstruktion - en delvis lottad patientpreferensstudie med 5 års uppföljning (GoBreast II)*
Intervju kring nöjdhet/missnöjdhet

Plats och datum	Underskrift
	Namnförtydligande

Information till forskningspersoner

Vi vill fråga dig om du vill delta i ett forskningsprojekt. I det här dokumentet får du information om projektet och om vad det innebär att delta.

Vad är det för ett projekt och varför vill ni att jag ska delta?

I detta forskningsprojekt önskar vi undersöka dina upplevelser och erfarenheter kring val av metod vid bröstrekonstruktion. Syftet är att få mer kunskap kring hur man resonerar när man väljer metod och hur vi skulle kunna förbättra denna process för framtida patienter. Du tillfrågas om deltagande då du deltar i gruppen som själv valt metod i studien GoBreast II (preferensgruppen).

Forskningshuvudman för projektet är Västra Götalandsregionen. Med forskningshuvudman menas den organisation som är ansvarig för projektet. Ansökan är godkänd av Etikprövningsmyndigheten, diarienummer för prövningen hos Etikprövningsmyndigheten är 2023-04754-01.

Hur går projektet till?

Ett deltagande innebär att du kommer att kallas för en intervju med frågor kring ditt val av bröstrekonstruktionsmetod. Intervjun kommer att utföras av en psykolog/psykologstudent eller en sjuksköterska eller en läkare.

Intervjun sker vid två tillfällen (en gång i anslutning till att du gjort valet och en gång cirka ett år senare) och tar cirka 2 timmar per intervju och genomförs där du själv önskar (sjukhuset/hemma hos dig/på din arbetsplats) eller online (Zoom eller Teams).

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Intervju kring val av operationsteknik

Plats och datum	Underskrift
	Namnförtydligande

SPIRIT | CONSORT OUTCOMES
Reporting Guidelines for Trial Outcomes

SPIRIT-Outcomes 2022 Extension items only (for separate completion of SPIRIT 2013 and SPIRIT-Outcomes 2022 items)[a]

Section	Item No.	SPIRIT-Outcomes 2022 item	Location Reported[b]
Methods: Participants, interventions, and outcomes			
Outcomes	12.1	Provide a rationale for the selection of the domain for the trial's primary outcome	
	12.2	If the analysis metric for the primary outcome represents within-participant change, define and justify the minimal important change in individuals	
	12.3	If the outcome data collected are continuous but will be analyzed as categorical (method of aggregation), specify the cutoff values to be used	
	12.4	If outcome assessments will be performed at several time points after randomization, state the time points that will be used for analysis	
	12.5	If a composite outcome is used, define all individual components of the composite outcome	
Sample size	14.1	Define and justify the target difference between treatment groups (eg, the minimal important difference)	
Methods: Data collection, management, and analysis			
Data collection methods	18a.1	Describe what is known about the responsiveness of the study instruments in a population similar to the study sample	
	18a.2	Describe who will assess the outcome (eg, nurse, parent)	
Statistical methods	20a.1	Describe any planned methods to account for multiplicity in the analysis or interpretation of the primary and secondary outcomes (eg, coprimary outcomes, same outcome assessed at multiple time points, or subgroup analyses of an outcome)	

[a]It is strongly recommended that this checklist be read in conjunction with the SPIRIT (Standard Protocol Items: Recommendations for Interventional Trials) Statement paper for important clarification on the items. Amendments to the protocol should be tracked and dated. The SPIRIT checklist is copyrighted by the SPIRIT Group under the Creative Commons "Attribution-NonCommercial-NoDerivs 3.0 Unported" license and is reproduced with permission.
[b]Indicates page numbers and/or manuscript location: to be completed by authors during trial protocol development.