Breast Surgery Update

November 2025

Welcome to this edition of the Breast Surgery Update. The aim of this publication is to bring together a range of recently published research and guidance that will help you make evidence-based decisions.

Accessing Articles

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Please contact Holly if you would like more information, or further evidence searches: holly.cook3@nhs.net.

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Changes to NICE guidance (Breast Cancer and Surgical Care) past 6 months

Sacituzumab govitecan for treating hormone receptor-positive HER2-negative metastatic breast cancer after 2 or more treatments (terminated appraisal)
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Published: 13 August 2025
https://www.nice.org.uk/guidance/ta1089

Ribociclib with an aromatase inhibitor for adjuvant treatment of hormone receptor-positive HER2-negative early breast cancer at high risk of recurrence
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Published: 06 August 2025
https://www.nice.org.uk/guidance/ta1086

Capivasertib with fulvestrant for treating hormone receptor-positive HER2-negative advanced breast cancer after endocrine treatment
Technology appraisal guidance Reference number:TA1063
Published: 15 May 2025
https://www.nice.org.uk/guidance/ta1063

Trastuzumab deruxtecan for treating HER2-positive unresectable or metastatic breast cancer after 1 or more anti-HER2 therapies
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Expected publication: 17 December 2025
https://www.nice.org.uk/guidance/topic-selection/gid-ta11674

Advanced breast cancer: diagnosis and management (Partial update)

In development
Reference number:GID-NG10430
Expected publication date: 26 February 2026
https://www.nice.org.uk/guidance/indevelopment/gid-ng10430

A selection of papers from Medline and CINHAL < 6 months

1. Simultaneous Implant and Dermal Flap Technique for Breast Reconstruction After Skin-Sparing Total Mastectomy for Breast Carcinoma

Item Type: Journal Article

Authors: Agdoğan, Özgür and Gürdal Özkan, Sibel

Publication Date: 2025

Journal: Breast Cancer (Dove Medical Press) 17, pp. 599–610

Abstract: **Objective:** This study aims to evaluate the simultaneous implant and dermal flap technique for breast reconstruction following skin-sparing total mastectomy in breast carcinoma patients, assessing both oncological and aesthetic outcomes.; **Methods:** A retrospective analysis was conducted on 28 patients who underwent skin-sparing total mastectomy with preservation of the nipple-areola complex, followed by immediate breast reconstruction using implants and dermal flaps. Data on patient demographics, surgical outcomes, complications, and patient satisfaction were collected and analyzed.; **Results:** The study included 28 patients with an average age of 54.3 years. The implant sizes used ranged from 200 to 325 cc. Among these patients, 7 were chronic smokers and 8 had chronic diseases. A total of 22 patients underwent bilateral mastectomies, while 6 had unilateral mastectomies. Axillary lymph node dissection was performed in all cases. Preoperative radiotherapy was administered to 3 patients, and postoperative radiotherapy was given to 5 patients. Two patients experienced unilateral complete necrosis of the NAC and skin, while one patient had partial NAC necrosis. No evidence of capsular contracture, tumor recurrence, or metastasis was observed during the follow-up period. Patient satisfaction was high, with 24 out of 28 patients expressing positive outcomes.; **Conclusion:** Simultaneous implant and dermal flap breast reconstruction after skin-sparing total mastectomy offers a viable single-session approach with optimal cosmetic results, minimal morbidity, and high patient satisfaction. This technique is particularly beneficial for patients seeking immediate reconstruction with preserved nipple-areola complex. (© 2025 Agdoğan and Gürdal Özkan.)

Access or request full text: https://libkey.io/10.2147/BCTT.S524455

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=40686519&profid=ehost

2. The 2024 Assisi think tank on breast cancer: Focus on the use of a tumour bed boost after breast conserving therapy

Item Type: Journal Article

Authors: Arenas, Meritxell;Bölükbaşı, Yasemin;Boersma, Liesbeth J.;Offersen, Birgitte;Kouloulias, Vassilis;Palumbo, Isabella;Trigo, Lurdes;Lozza, Laura;Marazzi, Fabio;Trovo, Marco;Rivera, Sofia;Kaidar-Person, Orit;Coles, Charlotte;Meattini, Icro;Valentini, Vincenzo;Aristei, Cynthia and Poortmans, Philip

Publication Date: 2025

Journal: Breast (Edinburgh, Scotland) 80, pp. 103881
At the Fifth Assisi Think Tank Meeting (ATTM) on breast cancer, one key topic was the role of tumor bed boost in invasive breast cancer and ductal carcinoma in situ. The need for a tumor bed boost after whole breast irradiation is controversial. A literature review assessed boost indications, target volume definition, techniques, dose fractionation, and ongoing trials. Findings indicated that while a boost halves the risk of local recurrence at 10 years, it also leads to worsened cosmetic outcomes and increased fibrosis without improving overall survival. Therefore, we would recommend to omit the boost if the estimated reduction in local recurrence at 10 years is less than 3 %, and to apply shared decision-making with patients, if the boost is expected to reduce the local recurrence rate with >3 % at 10 years. Future research will focus on identifying patient subgroups that can safely omit the boost and improving boost volume precision.

Access or request full text: https://libkey.io/10.1016/j.breast.2025.103881

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=39854807&profid=ehost

3. "Microsurgical breast reconstruction - A salvage option for failed implant-based breast reconstruction"

Item Type: Journal Article

Authors: Bigdeli, Amir Khosrow;Tee, Jia Wei;Vollbach, Felix Hubertus;Diehm, Yannick Fabian;Falkner, Florian;Strübing, Felix;Mahrhofer, Maximilian;Gazyakan, Emre;Kneser, Ulrich and Siegwart, Laura Cosima

Publication Date: 2025

Journal: Breast (Edinburgh, Scotland) 82, pp. 104480

Abstract: **Background:** The objective of this study was to evaluate microsurgical breast reconstruction as a salvage option for patients with failed implant-based breast reconstruction.; **Methods:** We conducted a retrospective single-center study including all patients with failed unilateral implant-based breast reconstruction who elected to undergo conversion surgery to microsurgical breast reconstruction from January 2015 to December 2023. Patients were grouped according to the urgency for conversion surgery in the urgent (implant infection or extrusion) or elective (capsular contracture, patients' desire) group. Both groups were compared.; **Results:** 120 patients were included in the study. 101 patients (84 %) were grouped in the elective

group and 19 patients (16 %) in the urgent group. Patient characteristics and intraoperative variables including the utilization of DIEP/MS-TRAM and TMG flap for microsurgical reconstruction were similar in group comparison. Patients in the urgent group had significantly more surgical interventions (3.3 vs. 2.0, $p < 0.001$) and suffered from significantly more major complications requiring re-operation (32 % vs. 11 %, $p = 0.018$) compared to the elective group. There was one flap loss in the urgent group (5 % vs. 0 %, $p = 0.158$).; **Conclusion:** Microsurgical breast reconstruction is a reliable and safe salvage option in patients with failure of implant-based breast reconstruction. Urgent conversion to microsurgical breast reconstruction due to implant-associated complications, such as infection or extrusion, requires more surgical interventions to achieve successful breast reconstruction and has a higher rate of major complications compared to elective conversion.

Access or request full text: https://libkey.io/10.1016/j.breast.2025.104480

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=40286761&profid=ehost

4. Objective and Subjective Factors Influencing Breast Reconstruction Decision-Making After Breast Cancer Surgery: A Systematic Review

Item Type: Journal Article

Authors: Bochtsou, Valentini;Effraimidou, Eleni I.;Samakouri, Maria;Plakias, Spyridon and Arvaniti, Aikaterini

Publication Date: 2025

Journal: Healthcare (2227-9032) 13(11), pp. 1307

Access or request full text: https://libkey.io/10.3390/healthcare13111307

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=185866983&profid=ehost

5. Pre-Mastectomy Breast Reconstruction Intentions in Women with Breast Cancer: Psychosocial and Personality Predictors Informing Mental Health Promotion

Item Type: Journal Article

Authors: Bochtsou, Valentini;Effraimidou, Eleni I.;Samakouri, Maria;Plakias, Spyridon;Zachou, Maria-Eleni and Arvaniti, Aikaterini

Publication Date: 2025

Journal: Healthcare (2227-9032) 13(14), pp. 1761

Access or request full text: https://libkey.io/10.3390/healthcare13141761

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=186961569&profid=ehost

6. Life Postdiagnosis: Female Adult Breast Cancer Survivors' Experience With Physical Activity-A Qualitative Systematic Review

Item Type: Journal Article

Authors: Brown, N. and Muirhead, F.

Publication Date: 2025

Journal: The Breast Journal 2025, pp. 6926093

Abstract: **Background:** With increasing survival rates of breast cancer, there is a need for more research to understand the experiences of survivors. Previous quantitative studies have shown that physical activity can be beneficial for breast cancer survivors. However, a qualitative perspective is essential to create appropriate adaptations for this population. This study aims to develop a deeper understanding of the experiences of female adult breast cancer survivors with physical activity in their postdiagnosis lifestyle. **Methods:** This study followed a qualitative systematic review methodology. In January 2024, six databases (APA PsycInfo, CINAHL Plus, OVID Medline, Scopus, SPORTDiscus and Sports Medicine an Education Index) were searched using aim-specific key terms. Ten studies, comprising a total sample of 200 participants, met the inclusion criteria. Quality appraisal, data extraction and synthesis stages were conducted. **Results**: Five main themes emerged during the synthesis stage: (1) Outcomes of Physical Activity Participation, (2) Barriers to Physical Activity, (3) Postdiagnosis Balancing Act, (4) Needs for Future Physical Activity Programs and (5) Next Steps for Breast Cancer Survivors. Additionally, 15 subthemes were identified. **Conclusion:** Overall, breast cancer survivors reported positive experiences with physical activity, leading to a desire to maintain an active lifestyle. However, barriers such as treatment side effects, unmet needs for advice from health services and challenges in daily life postdiagnosis were identified. Future research should explore the implementation of specific national guidelines and recommendations for survivors postdiagnosis to overcome these barriers and enhance the quality of survivorship care. (Copyright © 2025 Neeve Brown and Fiona Muirhead. The Breast Journal published by John Wiley & Sons Ltd.)

Access or request full text: https://libkey.io/10.1155/tbj/6926093

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=41048369&profid=ehost

7. Predictive value of the American college of surgeons "surgical risk calculator" (ACS-NSQIP SRC) for plastic and reconstructive surgery: a validation study from an academic tertiary referral center in Germany

Item Type: Journal Article

Authors: Bucher, Florian;Tamulevicius, Martynas;Dastagir, Nadjib;Alvarado, Catherine Fuentes;Obed, Doha;Dastagir, Khaled and Vogt, Peter M.

Publication Date: 2025

Journal: Patient Safety in Surgery 19(1), pp. 1–9

Abstract: Aims: The American College of Surgeons Surgical Risk Calculator (ACS-NSQIP SRC) was designed to predict morbidity and mortality in order to help providing informed consent. This study evaluated its performance in the field of plastic and reconstructive surgery for patients undergoing body contouring and breast reconstruction procedures. **Methods:** A retrospective analysis of patients undergoing body contouring and breast reconstruction procedures from January 1, 2022 to November 1, 2024 was performed. **Results:** The ACS-NSQIP SRC showed good prediction only for severe complications in patients undergoing breast reconstruction with DIEP flap (AUC = 0.727); overall prediction and calibration for the remaining 15 subgroups was poor. The incidence of overall and general complications, as well as length of hospital stay was underestimated. **Conclusions:** The overall performance of the ACS-NSQIP SRC was poor, a finding that underlines the importance of individual decision-making, also considering the surgeon's expertise and patient-specific characteristics.

Access or request full text: https://libkey.io/10.1186/s13037-025-00438-y

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=184872869&profid=ehost

8. Sexual-Esteem and Body-Esteem Perception After Breast Reconstruction According to the Surgical Technique

Item Type: Journal Article

Authors: Cámara-Pérez, Juan;Lucena, Cecilia Castro and Negreiros, José Carlo Zapata

Publication Date: 2025

Journal: Indian Journal of Surgery 87(4), pp. 689–694

Abstract: Breast carcinoma and mastectomy are associated with negative impacts on women's self-esteem and sexuality. There are different surgical techniques to reach breast reconstruction, the most relevant ones being the pedicled latissimus dorsi myocutaneous flap with prosthesis implantation after expander, the deep inferior epigastric perforator flap (DIEP) and only prosthesis implantation after expander. One of the objectives of breast reconstruction is to restore those factors although it is not totally clear which technique has the best outcomes in this regard. The aim of this study was to compare them in terms of self-esteem and sexuality. We selected patients who underwent breast reconstruction after mastectomy concerning the surgical technique. They filled the SESS and BREAST-Q tests, and they were compared among other parameters. Globally, deep

inferior epigastric perforator flap (DIEP) scored statistically better results than the other techniques in BREAST-Q, although latissimus dorsi was related to lower complication rate and prosthesis implant associated less length of stay. Deep inferior epigastric perforator flap (DIEP) was the breast reconstruction technique related globally to better outcomes in regard to sexuality and self-esteem.

Access or request full text: https://libkey.io/10.1007/s12262-024-04258-9

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=187309219&profid=ehost

9. Clinico-pathological features predicting indication to mastectomy in breast cancer patients achieving complete response after neoadjuvant therapy: A retrospective analysis of the EUSOMA database

Item Type: Journal Article

Authors: Catanuto, Giuseppe;Gentile, Damiano;Martorana, Federica;Tomatis, Mariano;Ponti, Antonio;Marotti, Lorenza;Aristei, Cynthia;Cardoso, Maria Joao;Cheung, Kwok Leung;Curigliano, Giuseppe;De Vries, Jakob;Karakatsanis, Andreas;Santini, Donatella;Sardanelli, Francesco;Van Dam, Peter and Rubio, Isabel T.

Publication Date: 2025

Journal: European Journal of Surgical Oncology : The Journal of the European Society of Surgical Oncology and the British Association of Surgical Oncology 51(6), pp. 109643

Abstract: **Aims:** We investigated factors related to the type of surgery, i.e. mastectomy versus breast conserving surgery (BCS), in breast cancer (BC) patients with complete pathologic response in the breast (ypT0) after neoadjuvant therapy (NAT).; **Methods:** A retrospective analysis from the EUSOMA database was performed using data from 55 certified centers across 14 European countries, including ypT0 BC patients (i.e., neither invasive nor in situ residuals), treated between 2017 and 2022. Variables analyzed included year of surgery, age, number and distribution of tumor focality, extent, clinical and pathological stages, and biologic subtype. Logistic regression was used to identify predictors of surgical choice. The Kaplan-Meier method was used for comparison of local recurrence-free survival (LRFS) between surgical groups.; **Results:** Of 1416 BC patients included, 67.5 % underwent BCS and 32.5 % mastectomy. At multivariable analysis, factors increasing the likelihood of mastectomy included: more recent year of surgery odds ratio (OR) 2.61, 95 % confidence interval (95%CI): 1.51-4.51,p = 0.001], younger age (OR: 0.96, 95%CI: 0.95-0.97,p < 0.001), multifocality (OR: 2.20, 95%CI: 1.61-3.00,p < 0.001) and multicentricity (OR: 12.66, 95%CI: 6.82-23.49,p < 0.001), advanced clinical tumor stage (OR: 14.54, 95%CI: 5.80-36.47,p < 0.001), and baseline axillary nodal involvement (OR: 1.56, 95%CI: 1.12-2.17,p = 0.009). Comparison between groups did not show a significant difference in LRFS (p = 0.389).; **Conclusion:** Many BC patients undergo mastectomy despite achieving complete response of primary tumor after NAT. Patients-related and tumor-related features, as well as having surgery in more recent years, seems to influence this choice. Our findings suggest the need for an optimized decision-making to spare unnecessary mastectomies.

Access or request full text: https://libkey.io/10.1016/j.ejso.2025.109643

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=40009908&profid=ehost

10. Confocal Microscopy for Intraoperative Margin Assessment of Lumpectomies by Surgeons in Breast Cancer: Training, Implementation in Routine Practice, and Two-Year Retrospective Analysis

Item Type: Journal Article

Authors: Cattacin, Irene;Rochat, Timothée;Feki, Anis;Fruscalzo, Arrigo;Boulvain, Michel and Guani, Benedetta

Publication Date: 2025

Journal: Cancers 17(17), pp. 2852

Abstract: Simple Summary: Breast-conserving surgery is a standard approach in early-stage breast cancer, aiming to remove the tumor while preserving healthy breast tissue. A key challenge is ensuring that the margins of the removed tissue are free of cancer cells, as involved margins often lead to repeat surgery. This study evaluates the use of the Histolog Scanner, a confocal microscopy device that provides real-time imaging of the surgical specimen during an operation. One surgeon underwent a structured training program and then used the scanner routinely over a two-year period. The findings demonstrate that the device enabled an accurate intraoperative assessment of the margin status and eliminated the risk of re-excisions in this cohort. This research suggests that with appropriate training, confocal microscopy can be effectively integrated into clinical practice to improve surgical precision and reduce the burden of repeat procedures for patients undergoing breast-conserving surgery. Background: Breast-conserving surgery (BCS) is recommended for early-stage breast cancer, with the aim of removing tumors while preserving breast tissue. Achieving clear margins is crucial to minimizing re-excision and recurrence risks. The Histolog® Scanner (HS), a confocal laser microscopy device, enables real-time intraoperative margin assessments. This study describes surgeon training, HS integration into clinical practice, and its impact on surgical outcomes. Methods: One surgeon participated in an online training program related to Histolog image of breast tissue. We assessed the time and workload required for the surgeon's training, as well as the implementation of the HS into the surgical workflow. We retrospectively analyzed patients who underwent BCS with an intraoperative margin assessment performed by the trained surgeon using HS between December 2022 and January 2025. The re-excision rate was collected, and sensitivity, specificity, accuracy, positive predictive value (PPV), and negative predictive value (NPV) were calculated using the final pathology assessment as the gold standard. Results: The surgeon completed the online training in 6 h 22 min over six days. HS integration into the routine workflow occurred smoothly. Retrospective analysis included 68 consecutive patients representing two years of clinical practice. The surgeon using the HS exhibited a sensitivity of 100%, specificity of 96.3%, accuracy of 96.9%, PPV of 85.7%, and NPV of 100%. Intraoperative HS usage eliminated re-excision in all cases. Integrating the HS into routine BCS procedures provides a highly accurate intraoperative margin assessment and significant reduction of re-excision rates.

Access or request full text: https://libkey.io/10.3390/cancers17172852

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=187985531&profid=ehost

11. The effect of neoadjuvant chemotherapy on ductal carcinoma in situ in triple-negative breast cancer patients: A nationwide analysis

Item Type: Journal Article

Authors: Claassens, Eva L.;Ploumen, Roxanne A. W.;Kooreman, Loes F. S.;van Kats, Maartje,A.C.E.;Siesling, Sabine;van Nijnatten, Thiemo,J.A. and Smidt, Marjolein L.

Publication Date: 2025

Journal: Breast (Edinburgh, Scotland) 80, pp. 104425

Abstract: **Purpose:** Recent studies show that ductal carcinoma in situ (DCIS) accompanying HER2+ breast cancer can be completely eradicated following neoadjuvant systemic therapy in up to 52 %. We aimed to determine the complete response rate of DCIS in triple-negative breast cancer (TNBC) patients in a nationwide cohort and to assess clinicopathological variables associated with response. Furthermore, the impact on surgical treatment after neoadjuvant chemotherapy (NACT) was investigated.; **Methods:** Women diagnosed with TNBC, treated with NACT followed by surgery, between 2010 and 2020, were selected from the Netherlands Cancer Registry (NCR). Pre-NACT and postoperative pathology reports were obtained from Palga, the Dutch nationwide pathology databank, to determine presence of DCIS. Clinicopathological factors associated with DCIS response were investigated using uni- and multivariable logistic regression analysis.; **Results**: In total, 4494 patients were included. A DCIS component was present in the pre-NACT biopsy of 442 (9.8 %) patients. Pathologic complete response of the DCIS component was achieved in 53.6 % of these patients. The presence of calcifications in the pre-NACT biopsy was associated with a lower chance of DCIS response in univariable logistic regression analysis (OR 0.52, CI 95 % 0.27-0.98, p = 0.04). In multivariable analysis, no statistically significant associations were found between DCIS response and clinicopathological variables. Mastectomy rates were higher in case of IBC + DCIS compared to IBC (53.4 % vs 40.1 %, p < 0.001).; **Conclusion**: Pathologic complete response of DCIS to NACT occurred in 53.6 % of TNBC patients. Future studies are required to be able to predict DCIS response based on clinicopathological variables and imaging.

Access or request full text: https://libkey.io/10.1016/j.breast.2025.104425

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=39983436&profid=ehost

12. Management of B3 breast lesions: Potential clinical implications from a retrospective study conducted in an accredited Breast Unit following the 2024 EUSOMA guidelines

Item Type: Journal Article

Authors: Corsi, Fabio;Cabri, Giulia Fanny;Albasini, Sara;Bossi, Daniela and Truffi, Marta

Publication Date: 2025

Journal: European Journal of Surgical Oncology : The Journal of the European Society of Surgical Oncology and the British Association of Surgical Oncology 51(3), pp. 109579

Abstract: B3 breast lesions present significant challenge in breast surgery. Despite their relatively low risk of malignancy without cellular atypia, overtreatment remains common. We retrospectively evaluate the management of B3 lesions in an accredited-EUSOMA Breast Unit, comparing 10-years practices with 2016 and 2019 international Consensus Conferences and with 2024 EUSOMA guidelines. The study included 354 patients diagnosed with B3 lesions, evaluating guideline adherence, malignancy risk in non-adherent cases, and biopsy-to-final pathology concordance. Adherence to guidelines varied by lesion type, with 46.3 % of cases potentially involving avoidable surgeries, 9.1 % of which were found to be malignant. Additionally, discrepancies between biopsy and final histology were significant, with 43.2 % of lesions showing different histological types. These findings emphasize the importance of updated guidelines to reduce overtreatment, encourage minimally invasive treatments and highlight the need of multidisciplinary discussions in managing B3 lesions, especially when there is a discrepancy between imaging and preoperative biopsy. (Copyright © 2025 The Authors. Published by Elsevier Ltd.. All rights reserved.)

Access or request full text: https://libkey.io/10.1016/j.ejso.2025.109579

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=39794170&profid=ehost

13. Breast cancer Intraoperative Margin Assessment using specimen PET-CT (BIMAP)

Item Type: Journal Article

Authors: De Crem, Anne-Sofie;Tummers, Philippe;Depypere, Herman;Braems, Geert;Salihi, Rawand;Vergauwen, Glenn;Cisternino, Giovanni;Van de Vijver, Koen;De Visschere, Pieter;De Man, Kathia;Van den Broeck, Bliede;Hendrickx, Sigi;Veldeman, Liv;Monten, Christel;Debacker, Jens M.;Denys, Hannelore and Göker, Menekse

Publication Date: 2025

Journal: NPJ Breast Cancer 11(1), pp. 101

Abstract: Positive surgical margins in breast-conserving surgery (BCS) for breast cancer occur in 20% of cases, making intraoperative margin assessment (IMA) crucial to avoid re-operations. This study evaluated specimen PET-CT imaging for IMA in 41 patients undergoing BCS. Specimen PET-CT imaging was performed with the ß-CUBE/X-CUBE (MOLECUBES) or the AURA 10 (XEOS). Seven physicians, with varying experience, assessed margin status postoperatively as positive, close (≤1 mm), or negative using PET-CT images at 10 min acquisition time and low reconstructed 18 F]FDG dose (0.8MBq/kg). Close margins on PET-CT were analyzed

once as positive and once as negative. Histopathology was the gold standard. The proposed technique showed 91% sensitivity and 86% specificity for invasive ductal carcinoma (IDC). Histopathology identified 9 positive margins in 31 IDC cases; 88% were detected by all physicians on specimen PET-CT whereas standard of care identified 44%. Therefore, specimen PET-CT will improve IMA in BCS and potentially reduce re-operation rates. The trial is registered since 20/01/2020 on ClinicalTrials.gov (ID: NCT04343079) with the title: "Intra-operative PET-CT: a Novel Approach to Determine Excision Margins in Lumpectomy Breast Cancer". (© 2025. The Author(s).)

Access or request full text: https://libkey.io/10.1038/s41523-025-00818-8

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=41006264&profid=ehost

14. Are 1 mm margins necessary after breast-conserving surgery for invasive cancer? A critical look at the proposed change

Item Type: Journal Article

Authors: Franceschini, Gianluca and Masetti, Riccardo

Publication Date: 2025

Journal: European Journal of Surgical Oncology : The Journal of the European Society of Surgical Oncology and the British Association of Surgical Oncology 51(2), pp. 109505

Access or request full text: https://libkey.io/10.1016/j.ejso.2024.109505

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=39637739&profid=ehost

15. Timing matters: A comparative analysis of synchronous and metachronous mammoplasty techniques

Item Type: Journal Article

Authors: Geldart, Jude;Barrett, Emma;Morad, Ahmed and Harvey, James

Publication Date: 2025

Journal: European Journal of Surgical Oncology : The Journal of the European Society of Surgical Oncology and the British Association of Surgical Oncology 51(9), pp. 110109

Abstract: **Background:** Therapeutic mammoplasty (TM) is a Level 2 oncoplastic procedure that improves cosmetic outcome in patients undergoing breast conserving surgery (BCS) for breast cancer. The contralateral

reduction may be performed at the same time as the index procedure (synchronous) or later (metachronous); commonly cited reasons for the latter include fewer complications, reduced need for revisional surgery and less delay to adjuvant therapies. This study aims to compare synchronous and metachronous approaches to therapeutic mammoplasty.; **Materials and Methods:** A database between 2010 and 2019 was hand searched. The primary outcome measure was the trend of synchronous vs unilateral operating by year. Secondary outcome measures included demographic variables, type of mammoplasty, tumour biology, revisional surgery rate, type and timing of planned revisional surgery, complications, type and time to adjuvant therapy, type of axillary surgery, and tumour trends by year.; **Results:** 155 patients had synchronous mammoplasties and 107 patients had unilateral procedures, of which 26 had delayed contralateral symmetrising surgery. There was a significant increase in the total number of TMs (p 0.05), time to radiotherapy (p > 0.05) or time till re-excision of margins/revision mastectomies (p > 0.05). In the unilateral group, mean time to contralateral symmetrising surgery was 14 months.; **Conclusions:** Synchronous TMs are increasingly popular and appear safe for patients undergoing BCS for breast cancer. Further work is necessary to establish patient preferences between the two groups.

Access or request full text: https://libkey.io/10.1016/j.ejso.2025.110109

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=40388851&profid=ehost

16. Personalized neoadjuvant strategy using 70-gene assay to increase breast-conserving surgery in ER+/HER2- breast cancer

Item Type: Journal Article

Authors: Han, Wonshik;Kang, Eunhye;Jung, Ji Gwang;Kim, Hong-Kyu;Lee, Han-Byoel;Kim, Jisun;Lee, Sae Byul;Shin, Hee-Chul;Park, Chan Sub;Seong, Min-Ki;Kim, Hyun-Ah;Kim, Eun-Kyu and Son, Byung Ho

Publication Date: 2025

Journal: NPJ Breast Cancer 11(1), pp. 57

Abstract: We investigated whether tailored neoadjuvant therapy (chemotherapy NCT] or endocrine therapy NET]) guided by a 70-gene assay could improve breast-conserving surgery (BCS) rates among patients with ER-positive/HER2-negative breast cancer initially deemed ineligible for BCS. Of 130 prospectively enrolled patients (stage II-IIIA, across four Korean centers), 92 were analyzed. Patients classified as high genomic risk received NCT, while low-risk patients underwent NET (letrozole ± leuprolide for premenopausal women) for 16-24 weeks. The primary endpoint-achieving the surgeon-defined target tumor size for BCS-was reached in 69.6% (95% CI: 59.1-78.7%), significantly surpassing the predefined goal of 50.8% (p < 0.05). The actual overall BCS rate was 59.8% (64.7% NCT, 45.8% NET). Pathologic complete response occurred in 2.2%, exclusively in the NCT group. Thus, pretreatment genomic profiling effectively guided therapy selection, substantially increasing BCS eligibility while sparing low-risk patients unnecessary chemotherapy toxicity. (© 2025. The Author(s).)

Access or request full text: https://libkey.io/10.1038/s41523-025-00772-5

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=40541934&profid=ehost

17. Intellectual or developmental disabilities and curative female breast cancer treatment: A population-based retrospective cohort study

Item Type: Journal Article

Authors: Hansford, Rebecca L.;Wilson, Brooke;Griffiths, Rebecca and Mahar, Alyson L.

Publication Date: 2025

Journal: Breast (Edinburgh, Scotland) 82, pp. 104509

Abstract: **Background:** Adults with intellectual or developmental disabilities (IDD) diagnosed with breast cancer are more likely to die than those without IDD. Differences in breast cancer treatment among individuals with and without IDD could contribute to survival disparities. We compared breast cancer treatment receipt among adults with and without IDD.; **Methods:** A population-based retrospective cohort study was conducted using administrative data. We included adult females diagnosed with stage I-III breast cancer in Ontario (2007-2018). IDD status was identified using an established algorithm. We estimated associations between IDD and surgical resection, adjuvant chemotherapy, and radiation using cause-specific hazards models in four distinct cohorts determined by stage and treatment eligibility. Unadjusted and adjusted hazard ratios (HR; adjusted for region, rurality, previous cancer, stage and year of diagnosis) with 95 % confidence intervals are reported, accounting for the competing event of death. Cancer subtype was not adjusted for as about 25 % of participants were missing this information. Effect modification by age, stage and comorbidity was explored.; **Results:** The four cohorts included 100,679 (IDD = 369), 12,526 (IDD = 57), 60,279 (IDD = 167), and 7891 individuals (IDD = 22), respectively. Relative to those without IDD, people with IDD were less likely to receive surgical resection (HR = 0.84; 0.76-0.94), breast conserving surgery (HR = 0.69; 0.60-0.80), adjuvant chemotherapy (HR = 0.49; 0.32-0.74), and radiation (HR = 0.58; 0.46-0.73). People with IDD were as likely to receive mastectomy (HR = 1.13; 0.97-1.33). Significant interactions by age and IDD were detected for receipt of mastectomy (interaction p-value = 0.03) and breast conserving surgery (interaction p-value = 0.02).; **Conclusions:** Research to understand treatment decision-making, the accessibility of breast cancer treatment, and to examine potential pathways to improve receipt of guideline-recommended care are needed to inform targeted improvements in care delivery. (Copyright © 2025 The Authors. Published by Elsevier Ltd.. All rights reserved.)

Access or request full text: https://libkey.io/10.1016/j.breast.2025.104509

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=40523325&profid=ehost

18. Lost axillary markers after neoadjuvant chemotherapy in breast cancer patients - data from the prospective international AXSANA (EUBREAST 3) cohort study (NCT04373655)

Item Type: Journal Article

Authors: Hartmann, Steffi;Banys-Paluchowski, Maggie;Berger, Tomasz;Ditsch, Nina;Stickeler, Elmar;de Boniface, Jana;Gentilini, Oreste Davide;Schroth, Jennifer;Karadeniz Cakmak, Guldeniz;Rubio, Isabel T.;Gasparri, Maria Luisa;Kontos, Michalis;Bonci, Eduard-Alexandru;Niinikoski, Laura;Murawa, Dawid;Kadayaprath, Geeta;Pinto, David;Peintinger, Florentia;Schlichting, Ellen;Dostalek, Lukas, et al

Publication Date: 2025

Journal: European Journal of Surgical Oncology : The Journal of the European Society of Surgical Oncology and the British Association of Surgical Oncology 51(9), pp. 110253

Abstract: **Introduction:** Marking metastatic lymph nodes before neoadjuvant chemotherapy (NACT) has become increasingly popular in the surgical treatment of breast cancer. A variety of devices are currently in use. However, the significance of lost markers is poorly understood, and their impact on clinical decisions is unclear.; **Materials and Methods:** Among participants enrolled in the prospective AXSANA cohort study, those planned for target lymph node biopsy (TLNB) or targeted axillary dissection (TAD) with completed post-NACT locoregional therapy (surgery and radiotherapy) by January 21, 2025, were included.; **Results:** In 88 of 1528 patients (5.8 %), axillary markers could not successfully be removed during surgery after NACT. The lost marker rate differed depending on the marker type (metallic clip/coil 7.0 %, carbon 3.1 %, radar reflector 1.4 %, magnetic seed 0.6 %, radioactive seed 0.0 %, $p < 0.001$). Additional postoperative imaging was performed in 25 (28.4 %) and further surgery to remove axillary markers was performed in 6 (6.8 %) patients with lost markers. The proportion of patients undergoing axillary lymph node dissection (46.6 % versus 36.5 %, p 0.069) and axillary radiotherapy (51.1 % versus 50.2 %, p 0.748) did not differ between patients with and without lost markers. After an average follow-up of 21.8 months, axillary recurrences occurred in 3 patients (3.3 %) with and 16 patients (1.0 %) without lost markers (rate ratio 2.89, p 0.088).; **Conclusion:** The loss of markers in TLNB/TAD is uncommon and significantly depends on the marking technique. Lost markers may lead to diagnostic uncertainties and additional imaging or surgical procedures.

Access or request full text: https://libkey.io/10.1016/j.ejso.2025.110253

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=40587927&profid=ehost

19. Effect of Intercostal Nerve Coaptation on Postoperative Pain in Implant-Based Breast Reconstruction: A Double-Blind, Randomized Controlled Pilot Study

Item Type: Journal Article

Authors: Kim, Ji-Young;Ha, Jeong Hyun and Jin, Ung Sik

Publication Date: 2025

Journal: Journal of Breast Cancer 28(2), pp. 108–118

Abstract: **Purpose:** Patients undergoing breast surgery may experience chronic postoperative pain in the breasts, upper extremities, and axillary regions, and no established methods for preventing this pain are available at present. This study aimed to investigate whether coaptation of the transected intercostal nerve can prevent the development of neuropathic and chronic breast pain after mastectomy in implant-based breast reconstruction.; **Methods:** A prospective, double-blind, randomized controlled trial was conducted by dividing patients who underwent implant-based breast reconstruction after mastectomy into a control group without nerve coaptation and an experimental group with nerve coaptation. Patient clinical information was collected, and a survey using the pain and quality of life scale was conducted at 6 and 12 months after surgery.; **Results:** Fifteen patients completed the study, including seven in the control group and eight in the experimental group. The two groups showed no significant differences in terms of clinical factors. The experimental group exhibited lower Short-Form McGill Pain Questionnaire scores than the control group at 6 and 12 months postoperatively, with a statistically significant difference at 6 months. Numerical Rating Scale and Present Pain Intensity scores for both groups were in the "no to mild" range throughout the study period, with no statistically significant differences between the groups. Although the difference in the BREAST-Q™ results did not reach statistical significance, the experimental group showed an improvement in the quality of life.; **Conclusion**: Intercostal nerve coaptation after mastectomy in implant-based breast reconstruction may facilitate initial nerve recovery. Although trial results are needed to fully determine the clinical impact, our findings support the ongoing scientific and clinical efforts to use this technique. (© The Authors 2025.)

Access or request full text: https://libkey.io/10.4048/jbc.2024.0212

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=40133987&profid=ehost

20. Trends in contralateral breast cancer and contralateral prophylactic mastectomy from 2009 to 2016

Item Type: Journal Article

Authors: Kim, Shana J.;Arneja, Jasleen;Christensen, Rebecca A. G.;Anderson, Geoff M. and Brooks, Jennifer D.

Publication Date: 2025

Journal: NPJ Breast Cancer 11(1), pp. 55

Abstract: This study characterizes trends in contralateral breast cancer (CBC) and contralateral prophylactic mastectomy (CPM) in Ontario, Canada, by breast cancer risk level. Overall, there has been a decline in CBC rates and the concomitant rise in CPM rates after unilateral breast cancer diagnosis, largely driven by high-risk individuals. Considerations for breast cancer risk level are recommended in evaluations of CBC and CPM trends. (© 2025. The Author(s).)

Access or request full text: https://libkey.io/10.1038/s41523-025-00763-6

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=40517156&profid=ehost

21. Development of a deep learning-based model for guiding a dissection during robotic breast surgery

Item Type: Journal Article

Authors: Lee, Jeea;Ham, Sungwon;Kim, Namkug and Park, Hyung Seok

Publication Date: 2025

Journal: Breast Cancer Research : BCR 27(1), pp. 34

Abstract: **Background:** Traditional surgical education is based on observation and assistance in surgical practice. Recently introduced deep learning (DL) techniques enable the recognition of the surgical view and automatic identification of surgical landmarks. However, there was no previous studies have conducted to develop surgical guide for robotic breast surgery. To develop a DL model for guiding the dissection plane during robotic mastectomy for beginners and trainees.; **Methods:** Ten surgical videos of robotic mastectomy procedures were recorded. Video frames taken at 1-s intervals were converted to PNG format. The ground truth was manually delineated by two experienced surgeons using ImageJ software. The evaluation metrics were the Dice similarity coefficient (DSC) and Hausdorff distance (HD).; **Results:** A total of 8,834 images were extracted from ten surgical videos of robotic mastectomies performed between 2016 and 2020. Skin flap dissection during the robotic mastectomy console time was recorded. The median age and body mass index of the patients was 47.5 (38-52) years and 22.00 (19.30-29.52) kg/m 2 , respectively, and the median console time was 32 (21-48) min. Among the 8,834 images, 428 were selected and divided into training, validation, and testing datasets at a ratio of 7:1:2. Two experts determined that the DSC of our model was 0.828Formula: see text]5.28 and 0.818Formula: see text]6.96, while the HDs were 9.80Formula: see text]2.57 and 10.32Formula: see text]1.09.; **Conclusion:** DL can serve as a surgical guide for beginners and trainees, and can be used as a training tool to enhance surgeons' surgical skills. (© 2025. The Author(s).)

Access or request full text: https://libkey.io/10.1186/s13058-025-01981-3

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=40065440&profid=ehost

22. Intercostobrachial nerve preservation during breast cancer surgery to prevent chronic postsurgical pain: A systematic review and meta-analysis of randomized controlled trials

Item Type: Journal Article

Authors: Li, Zhaoxia;Wang, Fan;Kou, Xiaojuan;Couban, Rachel J.;Busse, Jason W. and Wang, Li

Publication Date: 2025

Journal: European Journal of Surgical Oncology : The Journal of the European Society of Surgical Oncology and the British Association of Surgical Oncology 51(9), pp. 110214

Abstract: **Background:** Intercostobrachial nerve (ICBN) sacrifice during breast cancer surgery is associated with chronic postsurgical pain (CPSP), impaired sensory function, and reduced quality of life. The aim of this study was to assess the comparative effects of ICBN preservation vs. sacrifice after breast cancer surgery.; **Methods:** We searched six databases for randomized clinical trials (RCTs) exploring ICBN preservation vs. sacrifice during breast cancer surgery. We assessed risk of bias and conducted random-effects meta-analyses, using the GRADE approach to rate the certainty of evidence.; **Result:** We included 25 RCTs and 2560 patients. Moderate certainty evidence showed that, compared to nerve sacrifice, ICBN preservation probably reduces CPSP (relative risk RR] 0.27, 95 % confidence interval CI] 0.21 to 0.34; absolute risk reduction ARR] 18 % 95 %CI 16 %-20 %]) and sensory deficits (RR 0.25 0.18 to 0.35]; ARR 28 % 24 %-30 %]). Low certainty evidence suggested that ICBN preservation may reduce moderate-to-severe CPSP (RR 0.26 0.10 to 0.65]; ARR 7 % 4 %-9 %]), hypoesthesia (RR 0.40 0.25 to 0.64]; ARR 17 % 10 %-21 %]), and paraesthesia (RR 0.30 0.13 to 0.69]; ARR 10 % 4 %-12 %]), but prolong surgery by an average of 11 min 95 %CI 4-18 min]. The effect on breast cancer recurrence (RR 0.83 0.51 to 1.35]) was supported by only very low certainty evidence.; **Conclusions:** Compared with ICBN sacrifice, preservation of the ICBN during breast cancer surgery probably reduces CPSP and sensory deficits but may increase the duration of surgery.; Registration: Open Science Framework (https://osf.io/r3knf).

Access or request full text: https://libkey.io/10.1016/j.ejso.2025.110214

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=40472725&profid=ehost

23. Long-term outcome for neoadjuvant versus adjuvant chemotherapy in early breast cancer and the prognostic impact of nodal therapy response: A population-based study

Item Type: Journal Article

Authors: Liu, Xingrong;Eriksson Bergman, Louise;Boman, Caroline;Foukakis, Theodoros and Matikas, Alexios

Publication Date: 2025

Journal: European Journal of Surgical Oncology : The Journal of the European Society of Surgical Oncology and the British Association of Surgical Oncology 51(3), pp. 109587

Abstract: **Introduction:** Although neoadjuvant systemic treatment for non-metastatic breast cancer has gained ground during the past decade, there is no compelling evidence that it improves overall survival compared to primary tumor resection and adjuvant treatment. At the same time, the approach to responders to neoadjuvant treatment in the axilla is evolving.; **Materials and Methods:** This is a retrospective analysis of a prospectively collected population-based registry. Patients that received neoadjuvant (n = 2126) or adjuvant

chemotherapy (n = 4754) for non-metastatic breast cancer during 2007-2020 in the Stockholm-Gotland region, which comprises 25 % of the entire Swedish population, were included. Overall survival of patients treated preoperatively and postoperatively was compared using inverse probability treatment weighting and landmark analysis. The prognostic impact of change between prechemotherapy clinical to postchemotherapy pathologic nodal stage (cN/pN) in women receiving neoadjuvant treatment was investigated.; **Results:** Median follow-up was 4.93 years. There was no difference in adjusted overall survival between adjuvant (reference) and neoadjuvant treatment in the entire population (HR = 1.38, 95 % CI 0.98-1.93, p = 0.062) or in breast cancer subtypes. Patients converting from positive clinical to negative pathologic nodal stage (cN+/pN0) had improved outcomes compared to cN0/pN0 or patients with pN0 following primary surgery. These patients had a particular disease trajectory, with early peak in risk of death followed by quick and sustained decrease.; **Conclusion:** There was no difference in survival of patients treated with neoadjuvant versus adjuvant systemic therapy for non-metastatic breast cancer. Patients with cN+/pN0 have excellent prognosis and represent potential candidates for de-escalation of local and systemic treatment. (Copyright © 2025. Published by Elsevier Ltd.)

Access or request full text: https://libkey.io/10.1016/j.ejso.2025.109587

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=39794172&profid=ehost

24. A preoperative predictive model for margin status in breast-conserving surgery

Item Type: Journal Article

Authors: Liu, Xinyu;Liu, Yan;Zhang, Shichao;Ma, Tao;Liu, Lei and Zhang, Jin

Publication Date: 2025

Journal: Breast (Edinburgh, Scotland) 83, pp. 104548

Abstract: **Background and Purpose:** Positive margins after breast-conserving surgery (BCS) not only frequently necessitate re-excision but also represent the most significant risk factor for local recurrence. This study aimed to identify preoperative predictors of positive margins in BCS and establish a predictive model.; **Materials and Methods:** A retrospective analysis was conducted on 2837 patients with primary breast cancer (BC) who underwent BCS at Tianjin Medical University Cancer Institute & Hospital between June 2014 and June 2024. All patients underwent preoperative imaging evaluations, including ultrasonography (US), mammography (MG), and magnetic resonance imaging (MRI). Patients were randomly divided into a training cohort (n = 1,986, 70 %) and a validation cohort (n = 851, 30 %). A nomogram was developed in the training cohort using univariate and multivariate logistic regression to identify significant clinicopathological and imaging predictors. Discrimination was evaluated by calculating the C-index, while the Hosmer-Lemeshow goodness-of-fit test was applied to validate calibration performance.; **Results:** The positive margin rate in our cohort was 18.6 %. The predictive model incorporated seven variables: histological type; MRI parameters including maximum lesion size, fibroglandular tissue (FGT), background parenchymal enhancement (BPE), non-mass enhancement (NME), multifocality, and axillary lymph node metastasis (ALNM). C-indices were calculated of 0.782 (95 % CI: 0.757-0.807) and 0.761 (95 % CI: 0.719-0.803) for the modeling and the validation

group, respectively. Hosmer-Lemeshow test:X-squared = 3.3163, df = 3, p-value = 0.3454.; **Conclusion:** We developed and validated a preoperative nomogram for predicting the risk of positive margins in BCS, integrating key clinicopathological and imaging parameters.

Access or request full text: https://libkey.io/10.1016/j.breast.2025.104548

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=40774219&profid=ehost

25. Re-Operation Rate for Breast Conserving Surgery Using Confocal Histolog Scanner for Intraoperative Margin Assessment—SHIELD Study

Item Type: Journal Article

Authors: Lux, Michael P.;Schuller, Zlatna;Heimann, Sara;Reichert, Verena M. C.;Kersting, Christian;Buerger, Horst and Sandor, Mariana-Felicia

Publication Date: 2025

Journal: Cancers 17(10), pp. 1640

Abstract: Simple Summary: Intraoperative margin assessment in breast conserving surgery with classical methods (radiography and ultrasound) has limitations resulting in 15–40% of patients that must undergo a second surgery (re-operation). The SHIELD study was conducted on 50 patients to quantify the reduction of the re-operation rate when the Histolog®Scanner confocal microscope is used to assess the presence of positive margins and excise additional recuts during the same surgery. 80.95% sensitivity and 99.53% specificity for breast cancer detection at the margin were achieved by the surgeons using the Histolog®Scanner. The re-operation rate in SHIELD was 10% (5/50) representing a 67% reduction (p = 0.016) when compared to 30% of the historical data. 17/21 and 4/21 positive margins were identified by surgeons using the Histolog®Scanner and the standard-of-care techniques, respectively. The intraoperative use of the Histolog®Scanner confocal microscope increased cancer detection rates resulting in a significant and clinically relevant reduction in the re-operation rate. Introduction: In breast conserving surgery (BCS), 15–40% of patients must undergo a second surgery (re-operation) due to post-surgical cancer-positive margins. Efficient intraoperative assessment of lumpectomy margins can reduce this rate. Classical methods like specimen radiography and ultrasound have limitations. The SHIELD study was conducted to prospectively quantify the reduction of the re-operation rate when the Histolog® Scanner (HLS) confocal microscope is intraoperatively used by surgeons for the margin assessment. **Methods:** 50 patients undergoing BCS were enrolled and analyzed. Lumpectomy margins were intraoperatively assessed by surgeons with the HLS in addition to standard-of-care techniques. Detected positive margins triggered the excision of additional recuts during the same surgery. Subsequent re-operation and detection rates were compared to historical data and pathology gold standards, respectively. **Results:** The study population included 32% of patients with pure invasive cancer(s), 18% with pure DCIS and 50% with invasive cancer(s) mixed with DCIS. The overall mean age was 63.56. All population features were statistically similar to the historical control (p > 0.1). Notably, 80.95% sensitivity and 99.53% specificity for breast cancer detection at the margin were intraoperatively achieved by the surgeons using the HLS. The re-operation rate in

SHIELD was 10% (5/50) while the historical control was 30% (12/40) corresponding to a 67% reduction (p = 0.016). Notably, 17/21 positive margins were intraoperatively identified with the HLS while 4/21 were detected with standard-of-care techniques. **Conclusions:** The intraoperative use of the Histolog Scanner confocal microscope provides a significant increase in detection rates of lumpectomy positive margins resulting in a substantial reduction in the re-operation rate, while preserving specimen integrity without impact on histopathology assessment.

Access or request full text: https://libkey.io/10.3390/cancers17101640

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=185481028&profid=ehost

26. Supporting intraoperative margin assessment using deep learning for automatic tumour segmentation in breast lumpectomy micro-PET-CT

Item Type: Journal Article

Authors: Maris, Luna;Göker, Menekse;De Man, Kathia;Van den Broeck, Bliede;Van Hoecke, Sofie;Van de Vijver, Koen;Vanhove, Christian and Keereman, Vincent

Publication Date: 2025

Journal: NPJ Breast Cancer 11(1), pp. 88

Abstract: Complete tumour removal is vital in curative breast cancer (BCa) surgery to prevent recurrence. Recently, 18 F]FDG micro-PET-CT of lumpectomy specimens has shown promise for intraoperative margin assessment (IMA). To aid interpretation, we trained a 2D Residual U-Net to delineate invasive carcinoma of no special type in micro-PET-CT lumpectomy images. We collected 53 BCa lamella images from 19 patients with true histopathology-defined tumour segmentations. Group five-fold cross-validation yielded a dice similarity coefficient of 0.71 ± 0.20 for segmentation. Afterwards, an ensemble model was generated to segment tumours and predict margin status. Comparing predicted and true histopathological margin status in a separate set of 31 micro-PET-CT lumpectomy images of 31 patients achieved an F1 score of 84%, closely matching the mean performance of seven physicians who manually interpreted the same images. This model represents an important step towards a decision-support system that enhances micro-PET-CT-based IMA in BCa, facilitating its clinical adoption. (© 2025. The Author(s).)

Access or request full text: https://libkey.io/10.1038/s41523-025-00797-w

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=40783490&profid=ehost

27. Patient-attributable delay and its impact on two-year survival in breast cancer: A multicenter prospective cohort study

Item Type: Journal Article

Authors: Martín-García, Desirée;García-Aranda, Marilina;Varela-Moreno, Esperanza;Padilla-Ruiz, Mar;Zarcos-Pedrinaci, Irene;Rivas-Ruiz, Francisco;Téllez, Teresa;García-Gutiérrez, Susana;González, Nerea;Rivero, Amado;Sarasqueta, Cristina;Perestelo-Pérez, Lilisbeth;Castells, Xavier;Quintana, José María;Sala, María and Redondo, Maximino

Publication Date: 2025

Journal: European Journal of Surgical Oncology : The Journal of the European Society of Surgical Oncology and the British Association of Surgical Oncology 51(8), pp. 110280

Abstract: **Background:** Delays in the diagnosis and treatment of breast cancer can be attributed to sociodemographic characteristics, clinical-pathological factors, and the functioning of the health system. This study aims to examine the impact of patient-attributable delay (PPAD) on timely medical care and its effect on patient survival.; **Methods:** This multicenter, prospective, observational study included 543 patients diagnosed with breast cancer between 2013 and 2015. A PPAD was defined as a delay of more than 90 days between symptom onset and consultation with a primary care physician or emergency department. The rate of PPAD in this population was 14.18 %.; **Results:** Segmented analysis revealed significant associations with age and living alone, with living alone emerging as the only independent predictor of PPAD (Odds Ratio OR: 1.882; 95 % Confidence Interval CI: 1.033-3.42). Significant associations were identified between clinical stage ($p < 0.001$), immunophenotype ($p < 0.001$), PPAD ($p < 0.05$), age ($p < 0.001$), household situation ($p < 0.001$) and body mass index ($p < 0.05$) with breast cancer prognosis. In the multivariate analysis, PPAD was an independent risk factor for two-year mortality (OR 3.08; 95 % CI 1.05-9.07), second only to clinical stage (OR 6.78; 95 % CI 2.51-18.3). Age also remained as a significant predictor (OR 1.04; 95 % CI 1.01-1.07).; **Conclusion:** Our findings highlight the need for targeted interventions to raise cancer symptom awareness and address barriers faced by vulnerable groups, such as the elderly and individuals living alone, to reduce delays, improve clinical outcomes, increase survival rates, and ultimately the quality of life for patients.

Access or request full text: https://libkey.io/10.1016/j.ejso.2025.110280

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=40618651&profid=ehost

28. CADONOT: Comparing axillary dissection or not in breast cancer surgery

Item Type: Journal Article

Authors: Mattar, André;Antonini, Marcelo;Cavalcante, Francisco Pimentel;Zerwes, Felipe;Millen, Eduardo de Camargo;Brenelli, Fabricio Palermo;Frasson, Antônio Luiz;Baruel, Patrícia Carvalho;Okumura, Lucas Miyake;Soares, Leonardo Ribeiro;Madeira, Marcelo;Teixeira, Marina Diógenes;Amorim, Andressa Gonçalves;de Oliveira, Larissa Chrispim;Ramos, Marcellus do Nascimento Moreira;Facina, Gil;de Freitas Junior, Ruffo;Couto, Henrique Lima;Rondelo, Sabrina Monteiro;Leite, Renata Montarroyos, et al

Publication Date: 2025

Journal: Breast (Edinburgh, Scotland) 81, pp. 104453

Abstract: **Introduction:** Sentinel lymph node biopsy (SLNB) is the gold standard for the axillary evaluation of clinically node-negative early breast cancer. The ACOSOG Z0011 study demonstrated the safety of omitting axillary dissection for limited SLNB disease, with other trials confirming SLNB alone or with axillary radiotherapy (AR) as non-inferior.; **Methods:** We followed PRISMA guidelines and registered at PROSPERO. Using Medline, Embase, and Cochrane, we reviewed randomized controlled trials (2010-2024). Outcomes, including 5-, 8-, and 10-year OS, DFS, recurrence rates, and lymphedema, were analyzed with R software and assessed for bias (Cochrane RoB) and evidence quality (GRADE). The focus was ALND vs. SLNB, alone or with AR, in cT1-T3 BC with 1-2 metastatic SLNs.; **Results:** Thirteen articles from seven randomized controlled trials (RCTs) were included, covering 7338 women with a follow-up period of 2.8-10 years. SLNB was associated with a 65 % lower risk of lymphedema than ALND, with no significant differences in the 5-, 8-, or 10-year OS, DFS, or recurrence rates. A meta-analysis comparing micrometastasis and macrometastasis showed no impact on outcomes, indicating that ALND may be unnecessary in either case. Recurrence rates also did not differ between SLNB and ALND, reinforcing SLNB's significantly lower lymphedema risk of SLNB.; **Conclusions:** This systematic review and meta-analysis support SLNB as a safe and effective alternative to ALND in early-stage BC with 1-2 positive SLNs, providing comparable survival and recurrence outcomes, with fewer complications.

Access or request full text: https://libkey.io/10.1016/j.breast.2025.104453

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=40220731&profid=ehost

29. Techniques for Retaining the Inframammary Fold in Implant-Based Reconstructive Breast Surgery

Item Type: Journal Article

Authors: Mishin, Artem;Kartasheva, Alla;Okhotin, Viktor and Ganshin, Igor

Publication Date: 2025

Journal: European Journal of Breast Health 21(3), pp. 190–199

Abstract: Both reconstructive and aesthetic implant-based breast surgery are associated with the risk of damage or destruction of the inframammary fold (IMF). Such surgical complications lead to implant disposition and disruption of the natural shape of the breast. Various techniques are used to restore the IMF or prevent its damage, such as tissue rearrangement, sutures, capsular flaps, the use of biological matrices or synthetic meshes. In this review, all current methods of retaining the IMF and the frequency of complications reported over the past ten years are reviewed.

Access or request full text: https://libkey.io/10.4274/ejbh.galenos.2025.2025-2-1

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=40302694&profid=ehost

30. Randomized controlled trial comparing single-use negative-pressure wound therapy (sNPWT) with standard dressings during tissue expander-to-implant exchanges. Assessment of risk factors for impaired wound healing and clinical indications for sNPWT

Item Type: Journal Article

Authors: Molska, Maja;Wojciech, Magdalena;Pieszko, Karolina;Cieśla, Sławomir and Murawa, Dawid

Publication Date: 2025

Journal: European Journal of Surgical Oncology : The Journal of the European Society of Surgical Oncology and the British Association of Surgical Oncology 51(10), pp. 110355

Abstract: **Background:** Breast reconstruction is a key step in the physical and social recovery of breast cancer patients. Optimal wound healing is crucial not only for aesthetic outcomes but also for the uninterrupted continuation of adjuvant oncologic therapy, which can significantly impact overall prognosis.; **Purpose:** The study compared single-use negative pressure wound therapy (sNPWT) with standard dressings during the second stage of breast reconstruction - tissue expander-to-implant exchanges. Additionally, it aimed to identify factors associated with an increased risk of impaired wound healing and postoperative complications, to determine clinical conditions in which the prophylactic use of sNPWT is most beneficial.; **Methods:** The study evaluated 38 women undergoing the second stage of two-stage breast reconstruction after unilateral mastectomy. Each patient received either sNPWT or a standard dressing postoperatively, with allocation randomized and independent of both physician and patient. Scar characteristics, including elasticity, temperature, healing, and appearance, were assessed.; **Results:** A significant difference in skin elasticity in favor of sNPWT was observed after 7 days, while the most pronounced difference was seen after 6 months (mean 0.688 vs. 0.480). No significant differences were found in temperature. Visually, sNPWT-treated scars appeared narrower and less prominent. The mathematical model identified radiotherapy as the only factor significantly associated with poor healing (p-value = 0.025).; **Conclusion:** Compared to standard dressings, sNPWT demonstrates clear advantages in improving scars' elasticity and aesthetic appearance. Its application significantly reduces postoperative complications, including the risk of implant loss, making it a valuable option in breast reconstruction.

Access or request full text: https://libkey.io/10.1016/j.ejso.2025.110355

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=40752228&profid=ehost

31. Effect of physical exercise on the quality of life of women surviving breast cancer: systematic review with meta-analysis of randomized clinical trials

Item Type: Journal Article

Authors: Nero, Dario da Silva Monte;Lira, Carlos Rodrigo Nascimento de;Paz, Claudio Luiz da Silva Lima;Costa, Priscila Ribas de Farias;Cunha, Carla de Magalhães;Bueno, Allain Amador;Jesus, Rosângela Passos de and Oliveira, Lucivalda Pereira Magalhães de

Publication Date: 2025

Journal: European Journal of Surgical Oncology : The Journal of the European Society of Surgical Oncology and the British Association of Surgical Oncology 51(10), pp. 110287

Abstract: **Introduction:** Women surviving breast cancer (WSBC) may experience reduced quality of life (QoL) due to disease-associated manifestations and undergone treatment. Engagement in physical exercise (PE), and subsequent effects on physical capacity and social and emotional wellbeing, are known to enhance QoL.; **Method:** this systematic review meta-analysed the impact of PE, compared to respective control groups, on QoL in WSBC. Randomized clinical trials published up to December 2023, updated in February 2025, were searched in PubMed Medline, PsycInfo, EMBASE, Web of Science, LILACS, Cochrane Central, Scopus, and Google Scholar. Selected papers were catalogued in Endnote® and remaining documents exported to Rayyan®. Data analyses utilized the RoB 2 tool, Revman®, and GRADE for classification of certainty of evidence. Values of change in measurements between baseline and post-intervention were meta-analysed, with standardized mean differences calculated as effect size.; **Results:** 3313 documents were identified, with 36 meeting our eligibility criteria, and 35 quantitatively analysed. The meta-analysis revealed that PE, irrespective of modality, significantly improved QoL, as assessed by the Short Form Health Survey 36 (SF-36) global health perception scale (SMD = 0.43; CI95 %: 0.12 to 0.73; p = 0.006), FACT-G (SMD = 0.56; CI95 %: 0.13 to 0.99; p ≤ 0.01), FACT-B (SMD = 0.73; CI95 %: 0.38 to 1.08; p = 0.0003), and EORTC QLQ-C30 (Global health, SMD = 0.98; 95 % CI: 0.49-1.47; p < 0.00001). Subgroup analyses showed that combination of aerobic and resistance exercises yielded the most significant increase in QoL. SF-36 subdomains showed moderate to high certainty of evidence.; **Conclusion:** PE is effective in improving QoL in WSBC, particularly when combining aerobic and strength exercises. Robust public policies must encourage PE not only to reduce cancer risk but also to promote QoL improvement in WSBC.

Access or request full text: https://libkey.io/10.1016/j.ejso.2025.110287

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=40706110&profid=ehost

32. Effect of Acellular Dermal Matrix in Postoperative Outcomes in Tissue Expander Breast Reconstruction After Immediate Mastectomy

Item Type: Journal Article

Authors: Nova-Tayant, Óscar;Saorín-Gascón, Eduardo;Moreno-Villalba, Ram;Mora-Ortiz, Mar;Fernández-Pascual, Clemente J.;Vera-García, Pablo J. and Piñero-Madrona, Antonio

Publication Date: 2025

Journal: Cancers 17(19), pp. 3185

Abstract: Simple Summary: Post-mastectomy breast reconstruction is currently considered an integral component of breast cancer treatment. Among the most significant advances in recent decades is reconstruction utilizing breast expanders and acellular dermal matrices, employed to improve the quality of the breast flap following mastectomy. However, despite the increasing use of these matrices, concerns regarding their safety profile have been raised due to reported complications in several studies The present study aims to analyze the outcomes associated with these matrices in breast expander reconstruction at different anatomical planes. Background: Breast reconstruction following mastectomy has become an essential procedure in breast cancer treatment due to its positive impact on patients' quality of life. Among the various reconstruction techniques, the use of expanders followed by implants has gained popularity. In this context, acellular dermal matrices (ADM) have been introduced as an adjunct to improve implant coverage, lower pole support, and aesthetic outcomes. However, their use has also been associated with higher costs and a potential increase in postoperative complications, which remains a matter of debate. We aimed to determine the relationship between acellular dermal matrix and postoperative outcomes and complications. **Methods:** An observational retrospective study was conducted with patients who underwent immediately breast mastectomy followed by tissue expander reconstruction from January 2022 to June 2024. Patients were divided into two groups depending on reconstructive plane. **Results:** The final cohort contained 87 patients. Smoking, radiotherapy and dermal matrix were associated with a higher complication rates. After risk-adjustment, dermal matrix use led to a higher rates of surgical site infection (OR 7.62, p = 0.029) in the prepectoral plane, and higher rates of overall complications (OR 3.34, p = 0.05) and surgical wound dehiscence (OR 6.04, p = 0.048) in the retropectoral plane. **Conclusions:** These findings highlight the importance of individualized surgical planning, particularly concerning the use of acellular dermal matrix, which were associated with increased risks of surgical site infection, dehiscence, and global complications. Further research is required to establish standardized guidelines for the optimal selection surgical technique.

Access or request full text: https://libkey.io/10.3390/cancers17193185

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=188684710&profid=ehost

33. Immediate or delayed contralateral symmetrisation in therapeutic mammoplasty-A systematic review

Item Type: Journal Article

Authors: Permutt, Anabelle;Patel, Ronak;Thiruchelvam, Paul Tr and Leff, Daniel R.

Publication Date: 2025

Journal: European Journal of Surgical Oncology : The Journal of the European Society of Surgical Oncology and the British Association of Surgical Oncology 51(9), pp. 110226

Abstract: **Background:** For patients undergoing unilateral therapeutic mammoplasty for breast cancer, the timing of contralateral symmetrisation to achieve optimal outcomes is unclear. This review aims to evaluate studies examining outcomes following immediate or delayed symmetrisation.; **Methods:** A literature search of four databases (MEDLINE, EMBASE, Web of Science and Scopus) yielded 1077 papers. Thirty-five articles encompassing 2297 patients met the inclusion criteria for systematic review. The primary outcome was patient reported outcome measures (PROMs) and secondary outcomes included cosmesis, cost-effectiveness and complications.; **Results:** Two studies directly compared immediate and delayed contralateral symmetrisation, 17 studies focused only on immediate and six on delayed symmetrisation. PROMs were reported in 13 immediate symmetrisation studies describing high-levels of patient satisfaction (range of satisfaction with breasts = 68.6-81.5). Cosmesis was reported in 13 immediate and two delayed studies. Delayed symmetrisation was associated with inferior results (50 % described "unfair" outcomes in delayed studies vs. 89 % "fair", "good" or excellent" cosmetic outcomes in immediate studies). Complications across 34 studies were similar regardless of whether symmetrisation was immediate or delayed. Cost-effectiveness was reported in one study and observed significantly greater costs associated with delayed procedures median (range) costs: immediate = €4696 (€2724-6745); delayed = €9368 (€6982-11 646)].; **Conclusion:** High levels of patient satisfaction are reported with immediate symmetrisation, but comparisons with delayed mammoplasty is lacking. Patients receiving immediate symmetrisation report superior cosmesis and financial outcomes, with no additional increase in complications. Further research is required to directly compare PROMs and aesthetic outcomes of immediate and delayed symmetrisation. (Copyright © 2025 The Authors. Published by Elsevier Ltd.. All rights reserved.)

Access or request full text: https://libkey.io/10.1016/j.ejso.2025.110226

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=40544711&profid=ehost

34. Extreme Nipple-Sparing Mastectomy: Feasibility of Nipple Preservation and Immediate Reconstruction in Breasts Weighing Over 600 Grams in a Cohort of 43 Patients

Item Type: Journal Article

Authors: Purohit, Vaishali;Dwyer, Jasmine;Moreira, Andrea;Li, Jenna;Fernando, Emil;Gomez, Janette;Saldanha, Jennifer;Julian, Thomas;Coopey, Suzanne and Yang, Guan-Jun

Publication Date: 2025

Journal: Breast Journal 2025, pp. 1–8

Abstract: Background: Limited data exist on complication rates in nipple-sparing mastectomy (NSM) in patients with large-volume breasts. Our aim was to evaluate the early complication rates of NSM with immediate reconstruction in a consecutive cohort of patients with large-volume breasts. **Methods:** After IRB approval, patients treated with prophylactic or therapeutic NSM and immediate reconstruction from January 2020 to June 2022 at our health network were identified. Patients with breast weights > 600 g (the extreme NSM group) were compared to patients with breast weights of 600 g or less (the average-volume NSM group).

Results: A total of 184 patients underwent NSM with immediate reconstruction. Forty-three of 184 (23.37%) NSM patients had breast weights > 600 g. Of these, 30 patients had bilateral NSM, for a total of 73 breasts with volumes over 600 g, ranging from 603 to 1658 g. There were significantly more total complications in the extreme NSM compared to average-volume NSM groups (41.86% vs. 21.99%, p = 0.009852). When broken down into major and minor complications, the extreme NSM group had significantly more major complications than the average-volume NSM group (27.91% vs. 12.86%, p = 0.01072), but no difference in minor complications (13.95% vs. 9.29%, p = 0.2205). Overall, one (2.33%) patient in the extreme NSM group had a reconstruction failure, compared to three (2.14%) in the average-volume NSM group. Only two of 43 (4.65%) patients in the extreme NSM group lost their nipples due to total or partial nipple necrosis. **Conclusions:** NSM with immediate reconstruction was successful in the majority of patients with large-volume breasts. The rate of nipple loss was acceptably low. Women with breast volumes larger than 600 g who are motivated to save their nipples at the time of mastectomy could be offered NSM.

Access or request full text: https://libkey.io/10.1155/tbj/6974079

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=183914229&profid=ehost

35. AGO Breast Commission recommendations for the surgical therapy of breast cancer: Working Group on Gynecologic Cancers (AGO) update 2025

Item Type: Journal Article

Authors: Reimer, Toralf;Kuehn, Thorsten;Mueller, Volkmar;Ditsch, Nina;Fehm, Tanja;Albert, Ute-Susann;Bartsch, Rupert;Bauerfeind, Ingo;Bjelic-Radisic, Vesna;Blohmer, Jens-Uwe;Budach, Wilfried;Dall, Peter;Fallenberg, Eva Maria;Fasching, Peter A.;Friedrich, Michael;Gerber, Bernd;Gluz, Oleg;Harbeck, Nadia;Hartkopf, Andreas;Heil, Joerg, et al

Publication Date: 2025

Journal: European Journal of Surgical Oncology : The Journal of the European Society of Surgical Oncology and the British Association of Surgical Oncology 51(11), pp. 110445

Abstract: The German Guideline Commission (AGO: Working Group on Gynecologic Cancers) updated its recommendations on the diagnosis and treatment of breast cancer in March 2025. Chapters on oncological and oncoplastic-reconstructive surgery are coordinated with the Working Group for Plastic, Aesthetic, and Reconstructive Surgery in Gynecology (AWOgyn). The most important changes include the incorporation of INSEMA and SOUND trial results into the guidelines. In patients with low-risk characteristics, defined as age ≥50 years, postmenopausal status, hormone receptor-positive/HER2-negative subtype, tumor grading G1-2 with a maximum preoperative size of 2 cm, and unsuspicious axillary ultrasound and clinical examination, the sentinel lymph node biopsy (SLNB) can be omitted if breast-conserving surgery and whole-breast irradiation are planned. In patients with 1-2 macrometastatic sentinel lymph nodes (SLNs) undergoing a mastectomy and postoperative irradiation, completion axillary lymph node dissection (ALND) is no longer recommended. After neoadjuvant systemic therapy (NST), ALND is recommended if the targeted axillary dissection (TAD) shows macrometastases in the sentinel and/or in the target lymph node (the node that was marked and had a

macrometastasis in the biopsy before NST). Patients with isolated tumor cells in the sentinel and/or target lymph node should not receive ALND after NST. In case of ypN1mi status, the decision to perform a completion ALND should be made on a case-by-case basis. Oncoplastic surgery is safe and may replace a mastectomy in select cases.

Access or request full text: https://libkey.io/10.1016/j.ejso.2025.110445

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=40983010&profid=ehost

36. Consensus Statement on Robotic Nipple Sparing Mastectomy Expert Panel

Item Type: Journal Article

Authors: Ryu, Jai Min;Mok, Chi Wei;Toesca, Antonio;Lai, Hung-Wen;Kuo, Wen-Ling;Cheng, Fiona Tsui-Fen;Song, Seung Yong;Johnson, Jeffrey;Shin, Hyukjai and Park, Hyung Seok

Publication Date: 2025

Journal: Journal of Breast Cancer 28(3), pp. 180–192

Abstract: **Purpose:** Since the last consensus statement on robotic nipple-sparing mastectomy (RNSM) in 2019, this technique has gained popularity, with accumulating evidence supporting its feasibility and patient satisfaction. However, concerns regarding the technical challenges and patient selection persist. This study aimed to provide an updated consensus on RNSM.; **Methods:** An international panel of 10 expert surgeons was convened to develop a consensus covering six domains: indications, contraindications, technical considerations, patient counseling, outcome measures, and training. The panel was asked to vote on statements via two rounds of online surveys and a final in-person meeting at the Global Breast Cancer Conference in conjunction with the International Endoscopic and Robotic Breast Surgery Symposium. Consensus was defined as 80% agreement with each statement.; **Results:** A total of 53 statements with at least 80% agreement were generated after three rounds of voting. Most statements were updated from previous consensus statement. All experts agreed that the consensus statement serves as a set of expert recommendations for the successful and safe practice of robotic mastectomy but are not mandatory actions.; **Conclusion:** Although still evolving, RNSM is a promising technique representing the future of minimally invasive breast surgery. This international consensus statement offers expert recommendations for safe and effective RNSM practices. (© The Authors 2025.)

Access or request full text: https://libkey.io/10.4048/jbc.2025.0030

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=40432351&profid=ehost

37. Oncological Safety of Prepectoral Implant-Based Breast Reconstruction After Conservative Mastectomy: Insights from 842 Consecutive Breast Cancer Patients

Item Type: Journal Article

Authors: Scardina, Lorenzo;Di Leone, Alba;Sanchez, Alejandro Martin;Accetta, Cristina;Barone Adesi, Liliana;Biondi, Ersilia;Carnassale, Beatrice;D'Archi, Sabatino;De Lauretis, Flavia;Di Guglielmo, Enrico;Franco, Antonio;Magno, Stefano;Moschella, Francesca;Natale, Maria;Salgarello, Marzia;Savia, Eleonora;Silenzi, Marta;Visconti, Giuseppe;Masetti, Riccardo and Franceschini, Gianluca

Publication Date: 2025

Journal: Cancers 17(6), pp. 925

Abstract: Simple Summary: In this study, we retrospectively analyzed clinical and demographic data from 842 consecutive breast cancer patients who underwent conservative mastectomy with prepectoral implant-based breast reconstruction (IBBR) from January 2018 to December 2023 at Fondazione Policlinico Universitario Agostino Gemelli IRCCS in Rome. Several retrospective studies and meta-analyses have demonstrated that prepectoral IBBR is a safe surgical option, yielding clinical outcomes comparable to the subpectoral approach. However, there is limited evidence regarding residual breast tissue after conservative mastectomy, which remains a potential risk for local recurrence. The oncological safety of conservative mastectomy, when combined with prepectoral IBBR, remains a topic of ongoing discussion. This is the first study in the literature with such a large sample size comparing the oncological outcomes of conservative mastectomy combined with prepectoral IBBR to the subpectoral technique. **Background:** Implant-based breast reconstruction (IBBR) following conservative mastectomy is the most common approach for women undergoing breast cancer surgery. The aim of this study was to compare the oncological outcomes of conservative mastectomy combined with prepectoral IBBR to the subpectoral technique. **Methods:** The clinical and demographic data of consecutive breast cancer patients who underwent conservative mastectomy with either prepectoral or subpectoral IBBR between January 2018 and December 2023 were retrospectively analyzed. The primary outcome was the impact of conservative mastectomy with prepectoral IBBR on local recurrence-free survival (LRFS). Secondary outcomes included distant disease-free survival (DDFS) and overall survival (OS). **Results:** A total of 842 women (with a median age of 46 years and a range of 20–79 years) were included in the study. Of these, 648 patients (77.0%) underwent prepectoral IBBR, while 194 (23.0%) received subpectoral IBBR. The median follow-up was 32 months (3–74). Locoregional relapse occurred in 19 patients (2.9%) in the prepectoral group and 14 (7.2%) in the subpectoral group. Distant metastases were observed in 21 (3.2%) patients in the prepectoral group and 11 (5.7%) in the subpectoral group. Deaths were reported in eight patients (1.2%) in the prepectoral group and five (2.6%) in the subpectoral group. There were no statistically significant differences between the two groups in terms of the LRFS, DDFS, and OS ($p = 0.676$; $p = 0.994$; $p = 0.940$, respectively). **Conclusions:** Our study indicates that conservative mastectomy combined with prepectoral IBBR produces similar results to those of the subpectoral approach, with no significant differences in LRFS, DDFS, and OS.

Access or request full text: https://libkey.io/10.3390/cancers17060925

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=184104482&profid=ehost

38. Surgical Management of Ipsilateral Breast Cancer Recurrence After Conservative Mastectomy and Prepectoral Breast Reconstruction: Exploring the Role of Wide Local Excision

Item Type: Journal Article

Authors: Scardina, Lorenzo;Petrazzuolo, Eleonora;Accetta, Cristina;Carnassale, Beatrice;D'Archi, Sabatino;Di Leone, Alba;Di Pumpo, Annasilvia;Di Guglielmo, Enrico;De Lauretis, Flavia;Franco, Antonio;Gagliardi, Federica;Magno, Stefano;Moschella, Francesca;Natale, Maria;Rianna, Chiara;Sanchez, Alejandro Martin;Silenzi, Marta and Franceschini, Gianluca

Publication Date: 2025

Journal: Cancers 17(17), pp. 2881

Abstract: Simple Summary: This retrospective study examines the surgical management of ipsilateral breast cancer recurrence following conservative mastectomy with prepectoral reconstruction, a scenario for which evidence and standardized guidelines remain scarce. Radical mastectomy has traditionally been regarded as the standard approach, yet our findings suggest that wide local excision may represent a feasible and oncologically safe alternative in selected cases. This strategy not only preserves the implant in most patients but also reduces surgical invasiveness, with no apparent compromise in cancer-related outcomes. Multidisciplinary evaluation proved essential for treatment planning, ensuring an individualized balance between oncologic safety and preservation of reconstructive results. By providing early data in this underexplored field, our study may contribute to refining future clinical decision-making and optimizing care for patients experiencing local recurrence. **Background:** Conservative mastectomy with prepectoral breast reconstruction is becoming increasingly widespread and validated in recent years. Today, while aesthetic advantages and improvement in quality-of-life outcomes are widely acknowledged, oncological safety remains subject of debate. There is limited evidence on residual breast tissue after conservative mastectomy, and it still represents an unknown risk for local recurrence. The recent spread of this surgical technique precludes a standardized surgical approach in case of local recurrence of ipsilateral breast cancer, and the lack of evidence in the literature complicates the decision-making process. The objective of this study is to describe the surgical treatment of local relapses for breast cancer patients following conservative mastectomy and prepectoral implant-based reconstruction. **Methods:** Between January 2018 and May 2024 at a single institution, 648 consecutive patients underwent conservative mastectomy and prepectoral reconstruction as their primary treatment. We identified 12 patients with T1-2 breast cancer who subsequently had histologically confirmed ipsilateral breast cancer recurrence and a local wide excision or radical mastectomy were performed. Each clinical case was discussed in a multidisciplinary meeting to define the most appropriate surgical treatment. At time of diagnosis of recurrence, patients with lymph node metastasis or systemic involvement were excluded from the study. **Results:** Among 648 consecutive patients who underwent conservative mastectomy, 12 with histologically confirmed ipsilateral breast cancer recurrence were included. The mean interval to recurrence was 43 months (range 10–76 months) from the primary operation. Recurrence sites were as follows: upper outer quadrant in four patients (33.4%), upper inner quadrant in three (25.0%), lower inner quadrant in two (16.6%), lower outer quadrant in one (8.4%), and central quadrant with nipple involvement in two (16.6%). Of the 12 patients, 9 (75%) underwent wide local excision, including 2 who also received partial capsulectomy, while 3 (25%) required radical mastectomy with implant removal. Adjuvant

radiation therapy was administered to 6 patients (50%)—5/6 (83.3%) in the excision group and 1/6 (16.7%) in the mastectomy group. No significant differences were observed in distant disease–free survival or overall survival between the two groups. **Conclusions:** Currently, surgical treatment of ipsilateral breast tumor recurrence following conservative mastectomy and prepectoral breast reconstruction is not reported in the literature, and this study represents the first instance where wide local excision is described. The management of ipsilateral recurrence should be discussed in multidisciplinary meetings and could be performed safely in selected cases, sparing the prosthesis and avoiding radical mastectomy.

Access or request full text: https://libkey.io/10.3390/cancers17172881

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=187985560&profid=ehost

39. Clinical implications of clip migration after stereotactic-assisted vacuum-assisted breast biopsies

Item Type: Journal Article

Authors: Schultek, Gesche;Gerber, Bernd;Hartmann, Steffi;Reimer, Toralf;Stubert, Johannes;Fröhlich, Sarah;Gebert, Laura and Stachs, Angrit

Publication Date: 2025

Journal: European Journal of Surgical Oncology : The Journal of the European Society of Surgical Oncology and the British Association of Surgical Oncology 51(10), pp. 110393

Abstract: A stereotactic vacuum-assisted breast biopsy (VABB) is used to assess non-palpable breast lesions. The current study aims to identify possible influencing factors for clip migration and the impact of clip migration on surgery. In a retrospective study, clip migration in post-biopsy mammograms was evaluated (using a cut-off of ≥10 mm vs. <10 mm). Clip migration of ≥10 mm occurred in 35 patients (20.5 %). Breast density, type of clip, and bleeding did not influence the risk of clip migration. Clip migration along the access path (z-axis) and lower breast thickness were the only significant factors in relevant clip migration. Surgery was performed on 57 patients (33.3 %), including seven cases of clip migration ≥10 mm. A wire-guided localization was possible in all cases of pre-invasive or invasive lesions due to residual microcalcifications. Clip migration immediately after a VABB is common but has little negative impact on subsequent procedures. (Copyright © 2025 The Authors. Published by Elsevier Ltd.. All rights reserved.)

Access or request full text: https://libkey.io/10.1016/j.ejso.2025.110393

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=40834692&profid=ehost

40. Patients Who Refuse Blood Transfusions Should Not Be Discouraged from Immediate Direct-to-Implant Breast Reconstruction After Mastectomy: A Retrospective Study on Severe

Bleeding Risks

Item Type: Journal Article

Authors: Skonieczna, Maria;Strzałka, Piotr;Zadrożny, Marek;Grabczak, Wojciech and Pluta, Piotr

Publication Date: 2025

Journal: Cancers 17(19), pp. 3137

Abstract: Simple Summary: Immediate breast reconstruction has become a standard procedure that significantly improves the quality of life of patients after mastectomy without affecting oncological results. However, there are still doubts about whether to perform reconstructive surgery on patients who do not agree to a blood transfusion. This study aimed to evaluate whether direct-to-implant breast reconstruction poses a greater risk of bleeding complications than mastectomy alone and, therefore, is a viable option for bloodless medicine patients. The study results may help to establish standards of care for bloodless patients. **Background:** Direct-to-implant breast reconstruction is the most common method for immediate breast restoration after mastectomies performed with prophylactic or curative indications. This approach significantly enhances patients' quality of life without adversely affecting oncological outcomes. However, it remains unclear whether mastectomy with direct-to-implant breast reconstruction (M-DTI) is an optimal option for patients who refuse blood transfusions for religious reasons (e.g., Jehovah's Witnesses) or other personal beliefs. **Methods:** We retrospectively reviewed 490 patients who underwent either mastectomy alone (MA) or M-DTI between January 2021 and June 2023. We analyzed patient characteristics, operative details, and rates of bleeding complications. **Results:** MA was performed on 220 patients, while mastectomy with immediate breast reconstruction was conducted on 270 patients. Overall, bleeding complications—including those requiring reoperation and/or blood transfusion—occurred in 21 patients. In the MA group, bleeding complications occurred in 2.4% of patients, compared to 1.8% in the M-DTI group ($p = 0.249$). The risk of severe bleeding was unrelated to age, diagnosis, or type of procedure. **Conclusions**: The findings of this study suggest that immediate breast reconstruction does not increase the risk of bleeding in patients undergoing mastectomy. Therefore, it should also be considered a viable option for patients requiring bloodless medicine.

Access or request full text: https://libkey.io/10.3390/cancers17193137

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=188684662&profid=ehost

41. Nipple Areolar Complex (NAC) Neurotization After Nipple-Sparing Mastectomy (NSM) in Implant-Based Breast Reconstruction: A Systematic Review of the Literature

Item Type: Journal Article

Authors: Sorenson, T. J.;Boyd, C. J.;Park, J. J.;Hemal, K.;Amro, C.;Vernice, N.;Lakatta, A.;Cohen, O.;Karp, N. and Choi, M.

Publication Date: 2025

Journal: The Breast Journal 2025, pp. 2362697

Abstract: **Background:** Nipple-sparing mastectomy (NSM) with implant-based breast reconstruction (IBBR) preserves the nipple-areolar complex (NAC) with superior aesthetic results but results in loss of nipple sensation. Nipple neurotization has emerged as a technique to restore the sensory function, yet outcomes remain variable across studies. This systematic review synthesizes the available evidence on nipple neurotization in IBBR, focusing on sensory recovery, patient satisfaction, and surgical techniques.; **Methods:** A systematic review was conducted following PRISMA guidelines. PubMed, Ovid EMBASE, and Cochrane Library were searched through April 1, 2025, for studies evaluating nipple neurotization in IBBR. Eligible studies included randomized controlled trials, cohort studies, and case series reporting surgical technique, sensory, and/or patient satisfaction outcomes. Data extraction included study characteristics, surgical techniques, sensory outcomes, and patient-reported satisfaction. Risk of bias was assessed using standardized tools.; **Results:** Six studies met inclusion criteria, comprising 212 patients and 257 neurotized breasts. Sensory recovery was assessed using monofilament testing and patient-reported outcomes. Studies demonstrated overall improvement of NAC sensory outcomes and high patient satisfaction after neurotization. However, variability in neurotization methods, follow-up duration, and specific measured sensory outcomes limited direct comparisons.; **Conclusion:** Nipple neurotization in IBBR shows promise in enhancing sensory recovery and patient satisfaction after NSM, but heterogeneity in surgical techniques and outcome measures, as well as poor study designs, limits definitive conclusions. Standardized protocols and randomized studies with long-term patient follow-up are needed to establish best practices and optimize neurotization outcomes. (Copyright © 2025 Thomas J. Sorenson et al. The Breast Journal published by John Wiley & Sons Ltd.)

Access or request full text: https://libkey.io/10.1155/tbj/2362697

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=41089735&profid=ehost

42. Axillary surgery in early breast cancer: real-world analysis of the INSEMA-trial at three certified university breast cancer centers in Germany regarding the omission of sentinel lymph node biopsy

Item Type: Journal Article

Authors: Tauber, Nikolas;Rambow, Anna-Christina;Gasthaus, Clara;Fick, Franziska;Grande-Nagel, Isabell;Hilmer, Lisbeth;Kohls, Fabian;Krawczyk, Natalia;Le, Huy Duc;Elessawy, Mohamed;Maass, Nicolai;Müller, Volkmar;Rody, Achim;Schäfer, Karl,W.F.;Schmalfeldt, Barbara;Steinhilper, Lisa;Banys-Paluchowski, Maggie and van Mackelenbergh, Marion Tina

Publication Date: 2025

Journal: European Journal of Surgical Oncology : The Journal of the European Society of Surgical Oncology and the British Association of Surgical Oncology 51(10), pp. 110392

Abstract Background: Recent trials such as INSEMA and SOUND have demonstrated the oncological safety of

omitting sentinel lymph node biopsy in selected patients with hormone receptor-positive, HER2-negative early breast cancer. However, the implications for adjuvant treatment decisions in routine clinical practice remain unclear.; **Methods:** We conducted a retrospective multicenter cohort study from university breast cancer centers, analyzing 867 patients diagnosed between 2020 and 2024 who met INSEMA criteria: cT1, G1-2, age ≥50 years, clinically node-negative, undergoing breast-conserving surgery. We evaluated the incidence of pathologically positive lymph nodes, frequency of postoperative upgrades in tumor stage or grading, and potential impact on adjuvant therapy decisions, including indications for CDK4/6 inhibitors, secondary axillary surgery or radiation.; **Results:** Sentinel lymph node biopsy revealed occult lymph node metastases in 14.3 % (n = 124) of patients, with a false-negative rate of 10.5 % when micrometastases and isolated tumor cells were excluded. In 11.6 % of cases, nodal positivity led to relevant therapeutic changes, including chemotherapy, axillary radiation, or potential adjuvant CDK4/6 inhibitor therapy. Moreover, 18.8 % of patients would have required secondary axillary surgery due to postoperative upgrades in tumor characteristics. The number needed to operate to prevent one invasive recurrence with CDK4/6 inhibitors varies significantly based on age and clinical tumor size, ranging from 1:333 (maximum) to 1:111 (minimum).; **Conclusion:** While omission of sentinel lymph node biopsy appears safe in selected patients, our real-world data suggest that axillary staging retains clinical relevance for guiding personalized treatment, unless other prognostic tests like gene expression profiles are used.

Access or request full text: https://libkey.io/10.1016/j.ejso.2025.110392

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=40834690&profid=ehost

43. Barriers to Post-Mastectomy Breast Reconstruction: A Comprehensive Retrospective Study

Item Type: Journal Article

Authors: Vangsness, Kella L.;Cornely, Ronald M.;Sam, Andre-Philippe;Munabi, Naikhoba C. O.;Chu, Michael;Agko, Mouchammed;Chang, Jeff and Carre, Antoine L.

Publication Date: 2025

Journal: Cancers 17(12), pp. 2002

Abstract: Simple Summary: Many demographics affect post-mastectomy reconstruction care, including an older age, lower income, care at a public hospital, rural care, and non-White race. This data is significant because it identifies vulnerable populations and factors impeding breast reconstruction despite multiple federal regulations in place. **Background and Objectives:** Breast reconstruction following mastectomy improves quality of life and psychosocial outcomes, yet it is not consistently performed despite multiple federal mandates. Current data shows decreased reconstruction in minority races, those with a low socioeconomic status, and those holding public health insurance. Many barriers remain misunderstood or unstudied. This study examines barriers to post-mastectomy breast reconstruction to promote a supportive clinical climate by addressing multifactorial obstacles to equitable access to care. **Materials and Methods:** The California Cancer Registry Data Surveillance, Epidemiology, and End Results (SEER) database and

California Health and Human Services Agency Cancer Surgeries Database (2013–2021 and 2000–2021, respectively) were used in this retrospective observational study on mastectomy with immediate breast reconstruction (IBR), delayed breast reconstruction (DBR), or mastectomy only (MO) rates. Data were collected on age, sex, race, insurance type, hospital type, socioeconomic status, and residence. Pearson's chi-square analysis was performed. **Results:** We found that 168,494 mastectomy and reconstruction surgeries were performed (82.36% MO, 7% IBR, 10.6% DBR). The 40–49 age group received significantly less MO (38.1%) compared to the 70–74 age group (94.8%, (p = <0.001). Significantly more reconstruction was carried out in patients with private, HMO, or PPO insurance (IBR 75.86%, DBR 75.32%, p = <0.001). Almost all breast surgeries were in urban areas as opposed to rural/isolated rural areas (96.02% vs. 1.55%, p = <0.001). There was no significant difference between races. Of all surgeries, 7.46% were completed in a cancer center with significantly higher rates of IBR. LA County, San Luis Obispo/Ventura County, and Northern CA had significantly more MO than other regions (p = <0.001). **Conclusions:** Reconstruction rates after mastectomy are low, with only 17.64% of patients undergoing reconstruction. Nationally, 70.5% of patients received MO, with 29.6% undergoing reconstruction. Significant factors positively contributing to reconstruction were private insurance, high SES, cancer center care, and urban residency. Identified barriers include public health insurance enrollment, rural or non-urban residence, older age, low SES, and non-white race/ethnicity, indicating potential monetary influences on care.

Access or request full text: https://libkey.io/10.3390/cancers17122002

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=186205634&profid=ehost

44. Influence of surgical timing post-neoadjuvant chemotherapy on survival outcomes in breast cancer patients: A comprehensive systematic review and meta-analysis

Item Type: Journal Article

Authors: Wang, Dandan;Sun, Xiaowei;Sun, Wen;Wang, Ruoxi;Pan, Hong and Zhou, Wenbin

Publication Date: 2025

Journal: Breast (Edinburgh, Scotland) 81, pp. 104454

Abstract: **Background:** Increasing evidence supports the use of neoadjuvant chemotherapy (NAC) prior to surgery for breast cancer. However, the optimal timing between NAC and surgery had yet to be fully elucidated. This meta-analysis aims to assess how the optimal interval time (OTT) between NAC and surgery affects outcomes in breast cancer, providing additional evidence for clinical practice and future research.; **Methods:** PubMed, Web of Science and Cochrane Library databases in English were systematically searched for this systematic review. All included studies investigated the variations in surgical timing following NAC and their effects on breast cancer outcomes. The endpoints included the rate of pathological complete response (pCR), overall survival (OS), recurrence free survival (RFS), and disease-free survival (DFS). This study has been registered with PROSPERQ.; **Results:** Eleven eligible studies were identified, encompassing a total of 10,834 cases, all of which received surgery post-NAC. All studies were retrospective in nature. Ultimately, compared to intervals within 4 weeks, patients who underwent surgery>8weeks post-NAC demonstrated a statistically

significant worse OS (HR = 1.21, 95 % CI: 1.06-1.40, p = 0.333 for heterogeneity). No significant difference of OS was observed between patients with OTT of 4-8 weeks vs 8weeks (HR = 1.21, 95 % CI: 1.13-1.29, I 2 = 36.2 %, p = 0.195 for heterogeneity) exhibited decreasing RFS, compared with those with OTTs of8weeks vs < 4 weeks and 4-8weeks vs < 4 weeks.; **Conclusion:** Our systematic review and meta-analysis indicate that the optimal interval following NAC for breast cancer patients might be within four weeks, as delays exceeding eight weeks could be associated with poorer clinical outcomes. However, additional research is necessary to validate these preliminary findings.

Access or request full text: https://libkey.io/10.1016/j.breast.2025.104454

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=40120518&profid=ehost

45. Feasibility, Safety, and Early Outcomes of Image-Guided Segmentectomy Using Near-Infrared Fluorescence Dye for Tumor Visualization and Margin Identification: A Collaborative Effort by the Surgical and Radiological Teams

Item Type: Journal Article

Authors: Wu, Ching Feng;Chen, Kuei An;Hsieh, Ming Ju;Wu, Yu Fu;Yang, Tzu Yi and Wu, Ching Yang

Publication Date: 2025

Journal: Thoracic Cancer 16(15), pp. 1–9

Abstract: Introduction: Despite advances in lung cancer management, it remains the leading cause of cancer-related deaths. Low-dose computed tomography (LDCT) screening has increased detection of small, difficult-to-palpate lung lesions. **Materials and Methods:** This retrospective study at Chang Gung Memorial Hospital (2014–2022) evaluated the feasibility of image-guided segmentectomy (I-segmentectomy) using indocyanine green (ICG) for lesion localization and intersegmental plane navigation. **Results:** A total of 260 patients with 266 pulmonary lesions were enrolled in the study cohort, with 122 lesions undergoing image-guided segmentectomy (I-segmentectomy). After propensity score matching, lesions resected using the I-segmentectomy method provided appropriate resection margins and margin-to-tumor ratios, particularly for lesions larger than 1 cm. Additionally, operation times were shorter with I-segmentectomy. Survival analysis showed no significant differences in disease-free and overall survival; although I-segmentectomy maintained a 100% survival rate. **Conclusion:** Overall, I-segmentectomy with dual ICG fluorescence imaging is a feasible, safe, and effective method for ensuring adequate resection margins in difficult-to-discern lung lesions. Further prospective studies are necessary to validate these findings and assess long-term outcomes.

Access or request full text: https://libkey.io/10.1111/1759-7714.70139

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=rzh&AN=187391060&profid=ehost

46. Immediate breast reconstruction on overall and breast cancer-specific survival: A propensity score matched analysis

Item Type: Journal Article

Authors: Xu, Qianrui;Wan, Yuntian;Sun, Zhangyue;Tan, Xiaolu and Zong, Xiangyun

Publication Date: 2025

Journal: Breast (Edinburgh, Scotland) 80, pp. 104422

Abstract: **Background**: The trend towards breast reconstruction post-mastectomy has increased, aiming to enhance patient outcomes and quality of life. This study examines the impact of immediate breast reconstruction (IBR) on survival outcomes compared to mastectomy alone (MA).; **Materials and Methods**: We conducted a retrospective cohort study of breast cancer patients aged 20-79 years with MA or IBR from 2010 to 2015. Propensity score matching (PSM) was utilized to balance the cohorts. Survival analysis assessed overall survival (OS) and breast cancer specific survival (BCSS), with subgroup analysis was performed.; **Results:** The median follow-up period was 93 months. After PSM, 16,220 female patients were matched. IBR was associated with improved OS (HR = 0.74, 95 % CI 0.69-0.79, p < 0.001) and BCSS (HR = 0.84, 95 % CI 0.78-0.91, p < 0.001). Patients who needed radiotherapy tended not to receive IBR. IBR achieved a survival advantage in OS across the subgroups including age, marital status, histology grade, T stage, N stage, chemotherapy status, and radiotherapy status. In patients aged 60-79 years, with Black ethnicity, with local median household income <$50,000, IBR's survival advantage is in OS but not BCSS and IBR was not inclined to be chosen among these groups.; **Conclusion:** IBR's OS advantage over MA is universal in all stratified age groups, marital statuses, histology grades, T/N stages, and chemo/radiotherapy statuses. For patients aged 60-79 years, with Black ethnicity, with a local median household income <$50,000 and requiring radiotherapy, IBR is survival-beneficial but these groups tend not to receive it.

Access or request full text: https://libkey.io/10.1016/j.breast.2025.104422

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=39985842&profid=ehost

47. Comparative Efficacy of Neoadjuvant Endocrine Therapy, Neoadjuvant Chemotherapy, and Neoadjuvant Chemo-Endocrine Therapy in Estrogen Receptor-Positive Breast Cancer Patients: A Meta-Analysis

Item Type: Journal Article

Authors: Yuan, Y.;Cui, N.;Xu, Z.;Cui, C.;Zhou, Z. and Ma, Z.

Publication Date: 2025

Journal: The Breast Journal 2025, pp. 1670410

Abstract: Neoadjuvant therapy before surgery offers varying benefits as a well-established treatment option for breast cancer. This study specifically evaluated the effectiveness of neoadjuvant endocrine therapy (NET), neoadjuvant chemotherapy (NCT), and neoadjuvant chemo-endocrine therapy (NCET) in patients with estrogen receptor (ER)-positive breast cancer. This meta-analysis was conducted and reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Electronic searching was conducted to retrieve articles from databases including PubMed, Cochrane Library, EMBASE, CNKI, and Wanfang. The primary outcome measured by odds ratios (ORs) with 95% confidence intervals (CIs) focused on assessing pooled effect sizes. Random-effects or fixed-effect models were conducted according to the existence of statistical heterogeneity. A total of 15 eligible articles were included in the analysis. The results indicated clinical response (CR) (OR = 0.54; 95% CI = 0.41 to 0.73; I2 = 39.6%) and clinical complete response (cCR) (OR = 0.31; 95% CI = 0.12 to 0.85; I2 = 68.0%) after NET was significantly higher than NCT. However, no significant difference was shown in pathological complete response (pCR) (OR = 0.49; 95% CI = 0.23 to 1.04; I2 = 0.0%) and breast-conserving surgery (BCS) (OR = 0.49; 95% CI = 0.23 to 1.04; I2 = 0.0%). The combined paradigm of NCET presented no significant improvement compared with monotherapy of NET or NCT. Overall, both NET and NCT are effective neoadjuvant treatment options for patients with ER+ breast cancer. More explicit clinical decision indicators need to be further clarified. And NCET does not offer additional benefits over NET or NCT in patients with ER+ breast cancer. (Copyright © 2025 Yi Yuan et al. The Breast Journal published by John Wiley & Sons Ltd.)

Access or request full text: https://libkey.io/10.1155/tbj/1670410

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=40405908&profid=ehost

48. Oncological outcomes of sentinel lymph node biopsy alone in patients with residual nodal disease after neoadjuvant chemotherapy for breast cancer: a systematic review and meta-analysis

Item Type: Journal Article

Authors: Zaborowski, A. M.;McGarry, J.;Wehrmann, F.;Ryan, E. J.;Rothwell, J.;Rutherford, C. L.;Evoy, D.;McCartan, D.;Prichard, R. S. and Boland, M. R.

Publication Date: 2025

Journal: European Journal of Surgical Oncology : The Journal of the European Society of Surgical Oncology and the British Association of Surgical Oncology 51(10), pp. 110356

Abstract: **Background:** The optimum axillary management of patients with node-positive breast cancer who have residual nodal disease (ypN+) following neoadjuvant chemotherapy (NAC) remains unclear. The aim of this systematic review was to evaluate oncological outcomes of patients with ypN + disease treated with sentinel lymph node biopsy (SLNB) only.; **Methods:** Three major databases (PubMed, EMBASE and Scopus) were searched. The primary endpoint was 5-year overall survival. Secondary outcomes included axillary

recurrence and distant recurrence rates. Only studies reporting at least one endpoint were included. Overall survival data were expressed as dichotomous variables and pooled as odds ratios using the Mantel-Haenszel method. Trial Sequential Analysis was also performed.; **Results:** The final data set consisted of 9 retrospective studies, including 9889 patients. Five studies reported 5-year overall survival, 5 reported axillary recurrence rates and 4 reported rates of distant metastases. Median follow-up was 45 months (2.5-182.5). The overall weighted mean 5-year overall survival for patients undergoing SLNB alone was 85.2 % (71-93). Omission of axillary lymph node dissection (ALND) was not associated with any difference in overall survival (OR 0.90, 95 % CI 0.64-1.26, p = 0.54) or rate of axillary recurrence at 5 years (OR 1.08, 0.64-1.83, P = 0.77).; **Conclusion:** Omission of ALND is not associated with inferior long-term oncological outcomes in patients with a positive sentinel lymph node biopsy after NAC. Although further prospective evidence is required, it is likely that select patients with limited nodal positivity after NAC could avoid ALND and its associated morbidity. (Copyright © 2025. Published by Elsevier Ltd.)

Access or request full text: https://libkey.io/10.1016/j.ejso.2025.110356

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=40811983&profid=ehost

49. Real-World Efficacy of HLX02-Based Neoadjuvant Therapy in HER2-Positive Breast Cancer: Clinical Insights and Future Directions

Item Type: Journal Article

Authors: Zhu, Z.;Wang, J.;Hong, S.;Gao, H.;Liu, J.;Ren, K.;Wang, S.;Wang, S. and Sun, G.

Publication Date: 2025

Journal: The Breast Journal 2025, pp. 1653319

Abstract: **Background:** The efficacy of HLX02, a trastuzumab biosimilar, in combination with chemotherapy for treating metastatic breast cancer (BC) has been established as equivalent to the reference Herceptin. This study aimed to assess the treatment response of HLX02-based neoadjuvant therapy in HER2-positive BC, with a focus on HR-positive versus HR-negative subgroups. Additionally, we investigated the potential role of a CDK4/6 inhibitor in combination with anti-HER2 therapy. **Methods:** This retrospective study included HER2-positive BC patients who received HLX02-based neoadjuvant therapy followed by curative surgery at Anhui Provincial Cancer Hospital between March 2021 and August 2023. Pathological complete response (pCR) rates were analyzed, and subgroup analyses evaluated predictors of pCR. In vitro experiments using BT-474 and MCF-7 cell lines assessed the effects of combining CDK4/6 inhibitors with anti-HER2 therapy on cell viability and apoptosis. **Results:** The study included 67 patients with a median age of 53 years. The overall pCR rate was 53.73%, with higher pCR rates observed in HR-negative patients compared to HR-positive patients (63.89% vs. 41.94%). Dual HER2 blockade with HLX02 and pertuzumab was associated with a numerically improved pCR rate (62.16%). ER expression significantly increased post-treatment, potentially indicating treatment resistance mechanisms. In vitro, the combination of CDK4/6 inhibitors with anti-HER2 therapy significantly reduced cell viability and promoted apoptosis in HR-positive, HER2-positive cell lines. **Conclusion:** HLX02 demonstrates real-world efficacy as part of neoadjuvant therapy for HER2-positive BC,

especially in HR-negative patients. The lower pCR rate in HR-positive patients highlights the need for additional strategies. Combining CDK4/6 inhibitors with anti-HER2 therapy presents a promising approach for HR-positive HER2-positive patients, warranting further clinical validation. (Copyright © 2025 Zhengzhi Zhu et al. The Breast Journal published by John Wiley & Sons Ltd.)

Access or request full text: https://libkey.io/10.1155/tbj/1653319

URL: https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=mdc&AN=40687942&profid=ehost

50. Development of a Digital Application Program Based on an Institutional Algorithm Sustaining the Decisional Process for Breast Reconstruction in Patients with Large and Ptotic Breasts: A Pilot Study

Item Type: Journal Article

Authors: Ziani, Federico;Pasteris, Andrea;Capruzzi, Chiara;Trignano, Emilio;Rampazzo, Silvia;Iurilli, Martin and Rubino, Corrado

Publication Date: 2025

Journal: Cancers 17(11), pp. 1807

Abstract: Simple Summary: Immediate breast reconstruction after mastectomy helps improve patients' quality of life, especially in women with breast cancer who require surgery. However, reconstruction in patients with large and sagging breasts is often more complex due to anatomical challenges and the risk of complications. To help plastic surgeons make faster and more accurate choices during surgery, our team developed a mobile application that follows a step-by-step decision-making pathway. The app is based on a previously validated surgical algorithm and guides the user in selecting the most appropriate reconstructive option, depending on the patient's anatomy and surgical findings. In this pilot study, we evaluated the app in clinical practice and found that it supported consistent decisions across different surgeons and was well accepted by both senior staff and trainees. This tool could help standardize care, reduce variability, and improve outcomes in complex breast reconstructions. **Background/Objectives:** Immediate implant-based breast reconstruction is an established option for selected patients undergoing mastectomy. However, patients with large and ptotic breasts present specific reconstructive challenges, often requiring tailored approaches to minimize complications and optimize aesthetics. This pilot study aimed to evaluate the clinical feasibility and effectiveness of a mobile application developed to support intraoperative decision-making based on an institutional algorithm for breast reconstruction. It is also important to underline that this pilot study was exploratory in nature and primarily aimed at assessing feasibility and adherence to an app-based decision pathway, rather than comparative efficacy. **Methods:** We conducted a prospective observational study from October 2023 to December 2024 at the University Hospital of Sassari. Female patients with large and ptotic breasts undergoing immediate implant-based reconstruction were included. A mobile app, developed using MIT App Inventor 2, implemented our institution's algorithm and guided surgeons through both preoperative and intraoperative decision-making. Surgical options included subpectoral, prepectoral with autologous fascial flaps, or prepectoral with acellular dermal matrix (ADM) reconstruction, depending on flap

thickness and fascia integrity. **Results:** Sixteen patients (21 reconstructed breasts) were included. Surgical planning and execution followed app-generated recommendations in all cases, with no intraoperative deviations. Subpectoral reconstruction was performed in six patients, prepectoral with ADM in eight, and prepectoral with fascial flaps in two. The app was rated positively by all surgeons and facilitated consistent decision-making. **Conclusions:** The proposed mobile application, described in this pilot study, proved to be a feasible and effective decision-support tool for implant-based breast reconstruction in patients with challenging anatomy. It standardized surgical choices, supported training, and has the potential to enhance reproducibility and safety in complex reconstructive procedures.