Supplementary material

Supplementary Table 1. The 100 most cited papers on breast-conserving surgery for breast cancer.

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| Rank | First author | Article title | Journal | Publication Year | Total citation |
| 1 | Fisher, B [20] | Twenty-year follow-up of a randomized trial comparing total mastectomy, lumpectomy, and lumpectomy plus irradiation for the treatment of invasive breast cancer. | NEW ENGLAND JOURNAL OF MEDICINE | 2002 | 4446 |
| 2 | Veronesi, U [21] | Twenty-year follow-up of a randomized study comparing breast-conserving surgery with radical mastectomy for early breast cancer. | NEW ENGLAND JOURNAL OF MEDICINE | 2002 | 2781 |
| 3 | Early Breast Canc Trialists Collab [17] | Effect of radiotherapy after breast-conserving surgery on 10-year recurrence and 15-year breast cancer death: meta-analysis of individual patient data for 10,801 women in 17 randomised trials | LANCET | 2011 | 2024 |
| 4 | Bartelink, H [46] | Impact of a higher radiation dose on local control and survival in breast-conserving therapy of early breast cancer: 10-year results of the randomized boost versus no boost EORTC 22881-10882 trial | JOURNAL OF CLINICAL ONCOLOGY | 2007 | 725 |
| 5 | Hughes, KS | Lumpectomy plus tamoxifen with or without irradiation in women 70 years of age or older with early breast cancer | NEW ENGLAND JOURNAL OF MEDICINE | 2004 | 682 |
| 6 | Hughes, KS | Lumpectomy plus tamoxifen with or without irradiation in women age 70 years or older with early breast cancer: long-term follow-up of CALGB 9343 | Long-Term Follow-Up of CALGB 9343 | 2013 | 657 |
| 7 | Nguyen, PL [35] | Breast cancer subtype approximated by estrogen receptor, progesterone receptor, and HER-2 is associated with local and distant recurrence after breast-conserving therapy | JOURNAL OF CLINICAL ONCOLOGY | 2008 | 623 |
| 8 | Veronesi, U [47] | Radiotherapy after breast-conserving surgery in small breast carcinoma: Long-term results of a randomized trial | ANNALS OF ONCOLOGY | 2001 | 530 |
| 9 | Kunkler, IH [48] | Breast-conserving surgery with or without irradiation in women aged 65 years or older with early breast cancer (PRIME II): a randomised controlled trial | LANCET ONCOLOGY | 2015 | 479 |
| 10 | Bijker, N | Breast-conserving treatment with or without radiotherapy in ductal carcinoma-in-situ: Ten-Year results of European Organisation for Research and Treatment of Cancer randomized phase III trial 10,853—A study by the EORTC Breast Cancer Cooperative Group and EORTC Radiotherapy Group | JOURNAL OF CLINICAL ONCOLOGY | 2006 | 478 |
| 11 | Singletary, SE | Surgical margins in patients with early-stage breast cancer treated with breast conservation therapy | AMERICAN JOURNAL OF SURGERY | 2002 | 475 |
| 12 | Whelan, T | Randomized trial of breast irradiation schedules after lumpectomy for women with lymph node-negative breast cancer | JOURNAL OF THE NATIONAL CANCER INSTITUTE | 2002 | 467 |
| 13 | Cheung, KJ; | Collective Invasion in Breast Cancer Requires a Conserved Basal Epithelial Program | CELL | 2013 | 463 |
| 14 | Csaba, P | Patient selection for accelerated partial-breast irradiation (APBI) after breast-conserving surgery: Recommendations of the Groupe Europeen de Curietherapie-European Society for Therapeutic Radiology and Oncology (GEC-ESTRO) breast cancer working group based on clinical evidence (2009) | RADIOTHERAPY AND ONCOLOGY | 2010 | 420 |
| 15 | Park, CC [25] | Outcome at 8 years after breast-conserving surgery and radiation therapy for invasive breast cancer: Influence of margin status and systemic therapy on local recurrence | JOURNAL OF CLINICAL ONCOLOGY | 2000 | 411 |
| 16 | Poggi, MM | Eighteen-year results in the treatment of early breast carcinoma with mastectomy versus breast conservation therapy - The National Cancer Institute randomized trial | CANCER | 2003 | 405 |
| 17 | Voogd, AC | Differences in risk factors for local and distant recurrence after breast-conserving therapy or mastectomy for stage I and II breast cancer: Pooled results of two large European randomized trials | JOURNAL OF CLINICAL ONCOLOGY | 2001 | 399 |
| 18 | Bartelink, H [46] | Whole-breast irradiation with or without a boost for patients treated with breast-conserving surgery for early breast cancer: 20-year follow-up of a randomised phase 3 trial | LANCET ONCOLOGY | 2015 | 340 |
| 19 | Anderson, SJ | Prognosis After Ipsilateral Breast Tumor Recurrence and Locoregional Recurrences in Patients Treated by Breast-Conserving Therapy in Five National Surgical Adjuvant Breast and Bowel Project Protocols of Node-Negative Breast Cancer | JOURNAL OF CLINICAL ONCOLOGY | 2009 | 315 |
| 20 | Lazovich, D | Underutilization of breast-conservingv surgery and radiation-therapy among women with stage-I or stage-II breast-cancer | MA-JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION | 1991 | 313 |
| 21 | Litiere, S | Breast conserving therapy versus mastectomy for stage I-II breast cancer: 20 year follow-up of the EORTC 10,801 phase 3 randomised trial | LANCET ONCOLOGY | 2012 | 309 |
| 22 | Houssami, N [27] | The Association of Surgical Margins and Local Recurrence in Women with Early-Stage Invasive Breast Cancer Treated with Breast-Conserving Therapy: A Meta-Analysis | ANNALS OF SURGICAL ONCOLOGY | 2014 | | 304 |
| 23 | Arvold, ND | Age, Breast Cancer Subtype Approximation, and Local Recurrence After Breast-Conserving Therapy | JOURNAL OF CLINICAL ONCOLOGY | 2011 | 298 |
| 24 | Keisch, M | Initial clinical experience with the MammoSite breast brachytherapy applicator in women with early-stage breast cancer treated with breast-conserving therapy | INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY BIOLOGY PHYSICS | 2003 | 285 |
| 25 | Morrow, M | Factors predicting the use of breast-conserving therapy in stage I and II breast carcinoma | JOURNAL OF CLINICAL ONCOLOGY | 2001 | | 284 |
| 26 | Harris, EER | Late cardiac mortality and morbidity in early-stage breast cancer patients after breast-conservation treatment | JOURNAL OF CLINICAL ONCOLOGY | 2006 | 275 |
| 27 | Polgar, C; | Breast-conserving treatment with partial or whole breast irradiation for low-risk invasive breast carcinoma-5-year results of a randomized trial | INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY BIOLOGY PHYSICS | 2007 | 265 |
| 28 | Coles, CE [44] | Partial-breast radiotherapy after breast conservation surgery for patients with early breast cancer (UK IMPORT LOW trial): 5-year results from a multicentre, randomised, controlled, phase 3, non-inferiority trial | LANCET | 2017 | 263 |
| 29 | Houssami, N | Meta-analysis of the impact of surgical margins on local recurrence in women with early-stage invasive breast cancer treated with breast-conserving therapy | | EUROPEAN JOURNAL OF CANCER | 2010 | 263 |
| 30 | Moran, MS [22] | Society of Surgical Oncology-American Society for Radiation Oncology Consensus Guideline on Margins for Breast-Conserving Surgery with Whole-Breast Irradiation in Stages I and II Invasive Breast Cancer | JOURNAL OF CLINICAL ONCOLOGY | 2014 | 260 |
| 31 | Curran, D | Quality of life of early-stage breast cancer patients treated with radical mastectomy or breast-conserving procedures: Results of EORTC trial 10,801 | EUROPEAN JOURNAL OF CANCER | 1998 | 259 |
| 32 | Moran, MS | Society of Surgical Oncology-American Society for Radiation Oncology Consensus Guideline on Margins for Breast-Conserving Surgery With Whole-Breast Irradiation in Stages I and II Invasive Breast Cancer | ANNALS OF SURGICAL ONCOLOGY | 2014 | 258 |
| 33 | Solin, LJ | Relationship of breast magnetic resonance imaging to outcome after breast-conservation treatment with radiation for women with early-stage invasive breast carcinoma or ductal carcinoma in situ | JOURNAL OF CLINICAL ONCOLOGY | 2008 | 258 |
| 34 | Fisher, B | Lumpectomy and radiation therapy for the treatment of intraductal breast cancer: Findings from national surgical adjuvant breast and bowel project B-17 | JOURNAL OF CLINICAL ONCOLOGY | 1998 | 258 |
| 35 | Millar, EKA | Prediction of Local Recurrence, Distant Metastases, and Death After Breast-Conserving Therapy in Early-Stage Invasive Breast Cancer Using a Five-Biomarker Panel | JOURNAL OF CLINICAL ONCOLOGY | 2009 | 247 |
| 36 | Moran, MS | Society of Surgical Oncology-American Society for Radiation Oncology Consensus Guideline on Margins for Breast-Conserving Surgery with Whole-Breast Irradiation in Stages I and II Invasive Breast Cancer | INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY BIOLOGY PHYSICS | 2014 | 246 |
| 37 | Pierce, LJ | Ten-year multi-institutional results of breast-conserving surgery and radiotherapy in BRCA1/2-associated stage I/II breast cancer | JOURNAL OF CLINICAL ONCOLOGY | 2006 | 240 |
| 38 | Kiebert, GM | The impact of breast-comserving treatment and mastectomy on the quality-of-life of early-stage breast-cancer patients—A Rreview | JOURNAL OF CLINICAL ONCOLOGY | 1991 | 236 |
| 39 | Abdulkarim, BS [36] | Increased Risk of Locoregional Recurrence for Women with T1-2N0 Triple-Negative Breast Cancer Treated with Modified Radical Mastectomy Without Adjuvant Radiation Therapy Compared with Breast-Conserving Therapy | JOURNAL OF CLINICAL ONCOLOGY | 2011 | 235 |
| 40 | Pleijhuis, RG [24] | Obtaining Adequate Surgical Margins in Breast-Conserving Therapy for Patients with Early-Stage Breast Cancer: Current Modalities and Future Directions | ANNALS OF SURGICAL ONCOLOGY | 2009 | 235 |
| 41 | Boughey, JC | Tumor Biology Correlates with Rates of Breast-Conserving Surgery and Pathologic Complete Response After Neoadjuvant Chemotherapy for Breast Cancer Findings from the ACOSOG Z1071 (Alliance) Prospective Multicenter Clinical Trial | ANNALS OF SURGERY | 2014 | 232 |
| 42 | Morrow, M | Standard for breast conservation therapy in the management of invasive breast carcinoma | CA-A CANCER JOURNAL FOR CLINICIANS | 2002 | 208 |
| 43 | Agarwal, S | Effect of Breast Conservation Therapy vs Mastectomy on Disease-Specific Survival for Early-Stage Breast Cancer | JAMA SURGERY | 2014 | 206 |
| 44 | Lazovich, DA | Breast conservation therapy in the United States following the 1990 National Institutes of Health Consensus Development Conference on the treatment of patients with early stage invasive breast carcinom | CANCER | 1999 | 202 |
| 45 | Touboul, E | Local recurrences and distant metastases after breast-conserving surgery and radiation therapy for early breast cancer | INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY BIOLOGY PHYSICS | 1999 | 200 |
| 46 | Jeevan, R | Reoperation rates after breast conserving surgery for breast cancer among women in England: retrospective study of hospital episode statistics | BMJ-BRITISH MEDICAL JOURNAL | 2012 | 197 |
| 47 | van Maaren, MC [45] | 10 year survival after breast-conserving surgery plus radiotherapy compared with mastectomy in early breast cancer in the Netherlands: a population-based study | LANCET ONCOLOGY | 2016 | 187 |
| 48 | Pierce, LJ | Effect of radiotherapy after breast-conserving treatment in women with breast cancer and germline BRCA1/2 mutations | JOURNAL OF CLINICAL ONCOLOGY | 2000 | 187 |
| 49 | Lu, PJ | A novel gene (PLU-1) containing highly conserved putative DNA chromatin binding motifs is specifically up-regulated in breast cancer | JOURNAL OF BIOLOGICAL CHEMISTRY | 1999 | 183 |
| 50 | Blichert-Toft, M | Long-term results of breast conserving surgery vs. mastectomy for early stage invasive breast cancer: 20-year follow-up of the Danish randomized DBCG-82TM protocol | ACTA ONCOLOGICA | 2008 | 179 |
| 51 | Elkhuizen, PHM | Local recurrence after breast-conserving therapy for invasive breast cancer: High incidence in young patients and association with poor survival | INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY BIOLOGY PHYSICS | 1998 | 175 |
| 52 | Vicini, FA | Ongoing clinical experience utilizing 3D conformal external beam radiotherapy to deliver partial-breast irradiation in patients with early-stage breast cancer treated with breast-conserving therapy | INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY BIOLOGY PHYSICS | 2003 | 169 |
| 53 | SINGLETARY, SE | FEASIBILITY OF BREAST-CONSERVATION SURGERY AFTER INDUCTION CHEMOTHERAPY FOR LOCALLY ADVANCED BREAST-CARCINOMA | CANCER | 1992 | 168 |
| 54 | Hwang, ES | Survival after lumpectomy and mastectomy for early stage invasive breast cancer | CANCER | 2013 | 166 |
| 55 | Rahusen, FD | Ultrasound-guided lumpectomy of nonpalpable breast cancer versus wire-guided resection: A randomized clinical trial | ANNALS OF SURGICAL ONCOLOGY | 2002 | 166 |
| 56 | Potter, R | Lumpectomy plus tamoxifen or anastrozole with or without whole breast irradiation in women with favorable early breast cancer | INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY BIOLOGY PHYSICS | 2007 | 163 |
| 57 | Offersen, BV | Accelerated partial breast irradiation as part of breast conserving therapy of early breast carcinoma: A systematic review | RADIOTHERAPY AND ONCOLOGY | 2009 | 162 |
| 58 | Jatoi, I | Randomized trials of breast-conserving therapy versus mastectomy for primary breast cancer—A pooled analysis of updated results | AMERICAN JOURNAL OF CLINICAL ONCOLOGY-CANCER CLINICAL TRIALS | 2005 | 159 |
| 59 | Baglan, KL | The use of high-dose-rate brachytherapy alone after lumpectomy in patients with early-stage breast cancer treated with breast-conserving therapy | INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY BIOLOGY PHYSICS | 2001 | 159 |
| 60 | Marston, NJ | Interaction between the product of the breast cancer susceptibility gene BRCA2 and DSS1, a protein functionally conserved from yeast to mammals | MOLECULAR AND CELLULAR BIOLOGY | 1999 | | 156 |
| 61 | Vicini, FA | Long-term primary results of accelerated partial breast irradiation after breast-conserving surgery for early-stage breast cancer: a randomised, phase 3, equivalence trial | LANCET | 2019 | 152 |
| 62 | Jagsi, R [19] | Patient-reported Quality of Life and Satisfaction with Cosmetic Outcomes After Breast Conservation and Mastectomy with and Without Reconstruction Results of a Survey of Breast Cancer Survivors | ANNALS OF SURGERY | 2015 | 148 |
| 63 | Tartter, PI [38] | Lumpectomy margins, reexcision, and local recurrence of breast cancer | AMERICAN JOURNAL OF SURGERY | 2000 | 146 |
| 64 | Nattinger, AB | Relation between appropriateness of primary therapy for early-stage breast carcinoma and increased use of breast-conserving surgery | LANCET | 2000 | 142 |
| 65 | Collette, S | Predictors of the risk of fibrosis at 10 years after breast conserving therapy for early breast cancer—A study based on the EORTC trial 22,881-10,882 ‘boost versus no boost’ | EUROPEAN JOURNAL OF CANCER | 2008 | 141 |
| 66 | De La Cruz, L | Outcomes After Oncoplastic Breast-Conserving Surgery in Breast Cancer Patients: A Systematic Literature Review | ANNALS OF SURGICAL ONCOLOGY | 2016 | 139 |
| 67 | Wilke, LG | Repeat Surgery After Breast Conservation for the Treatment of Stage 0 to II Breast Carcinoma A Report from the National Cancer Data Base, 2004–2010 | JAMA SURGERY | 2014 | 138 |
| 68 | Whelan, TJ | External beam accelerated partial breast irradiation versus whole breast irradiation after breast conserving surgery in women with ductal carcinoma in situ and node-negative breast cancer (RAPID): a randomised controlled trial | LANCET | 2019 | 137 |
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| 71 | Morrow, M | Surgical Margins in Lumpectomy for Breast Cancer-Bigger Is Not Better | NEW ENGLAND JOURNAL OF MEDICINE | 2012 | 130 |
| 72 | Voogd, AC [42] | Local recurrence after breast conservation therapy for early stage breast carcinoma - Detection, treatment, and outcome in 266 patients | CANCER | 1999 | 129 |
| 73 | Arthur, DW [49] | A Phase II trial of brachytherapy alone after lumpectomy for select breast cancer: Tumor control and survival outcomes of RTOG 95-17 | INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY BIOLOGY PHYSICS | 2008 | 127 |
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| 75 | Komoike, Y [43] | Ipsilateral breast tumor recurrence (IBTR) after breast-conserving treatment for early breast cancer - Risk factors and impact on distant metastases | CANCER | 2006 | 125 |
| 76 | Robson, M | Breast conservation therapy for invasive breast cancer in Ashkenazi women with BRCA gene founder mutations | JNCI-JOURNAL OF THE NATIONAL CANCER INSTITUTE | 1999 | 124 |
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| 78 | Buchholz, TA [23] | Margins for Breast-Conserving Surgery with Whole-Breast Irradiation in Stage I and II Invasive Breast Cancer: American Society of Clinical Oncology Endorsement of the Society of Surgical Oncology/American Society for Radiation Oncology Consensus Guideli | JOURNAL OF CLINICAL ONCOLOGY | 2014 | 123 |
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| 85 | Pierce, LJ | Local therapy in BRCA1 and BRCA2 mutation carriers with operable breast cancer: comparison of breast conservation and mastectomy | BREAST CANCER RESEARCH AND TREATMENT | 2010 | 113 |
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| 89 | Lovrics, PJ | The relationship between surgical factors and margin status after breast-conservation surgery for early stage breast cancer | AMERICAN JOURNAL OF SURGERY | 2009 | 110 |
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| 98 | Freedman, GM [37] | Intraoperative ultrasound is associated with clear lumpectomy margins for palpable infiltrating ductal breast cancer | | CANCER | 2009 | 105 |
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