

Client	HEALTHBENCHMARKS, INC. STANDARD ALGORITHM <i>Implemented for Blue Cross Blue Shield of Texas</i>		
Measure Title	RADIATION THERAPY FOLLOWING BREAST CONSERVING SURGERY		
Disease State	Cancer	Indicator Classification	Disease Management
Strength of Recommendation	A		
Organizations Providing Recommendation	Institute for Clinical Systems Improvement National Comprehensive Cancer Network		
Clinical Intent	To ensure that all eligible women who underwent breast conserving surgery receive follow up radiation therapy within a clinically appropriate timeframe.		
Physician Specialties (suggested)	General Surgery, Oncology		

Background

Disease Burden

- The American Cancer Society estimated that there would be approximately 212,930 new cases and 40,870 deaths from invasive breast cancer in the United States in 2005.[1]
- Breast cancer is the most commonly diagnosed cancer, and the second largest cause of cancer deaths (behind lung cancer) in women.[1]

Reason for Indicated Intervention or Treatment

- Women undergoing breast-conserving therapy have an enhanced quality of life compared to those who undergo mastectomy.[2, 3] In the United States, breast conserving treatment has become the recommended treatment option for women with early breast cancer.[4]
- Patients not undergoing radiotherapy after breast-conserving therapy have a large increase in the risk of ipsilateral breast cancer recurrence, and a small increase in the risk of mortality.[5]

Evidence Supporting Intervention or Treatment

- A 20 year follow up to the British Columbia randomized radiation trial concluded that “for patients with high-risk breast cancer treated with modified radical mastectomy, treatment with radiation therapy (schedule of 16 fractions) and adjuvant chemotherapy leads to better survival outcomes than chemo therapy alone, and is well tolerated, with acceptable long-term toxicity.”[6]
- A meta-analysis of 15 randomized controlled trials with 9,422 patients showed that the relative risk of ipsilateral breast tumor recurrence after breast-conserving therapy in patients treated with no radiotherapy versus

with radiotherapy was 3.0 (95% confidence interval [CI] of 2.65 to 3.40). In addition, an analysis of 13 randomized controlled trials with 8,206 patients showed a relative risk of mortality of 1.086 (95% CI of 1.003 to 1.175) if no radiotherapy was given.[5]

- Another meta-analysis of 9 randomized controlled trials with 4,891 patients revealed no apparent difference in total mortality (22.9% versus 22.9%) in patients receiving mastectomy versus breast-conserving therapy plus radiotherapy. Similarly, there was no difference in survival among approximately 3,100 women in 7 randomized controlled trials comparing the two treatment options.[7]
- A large review to support new practice guidelines concluded that breast conserving surgery with axillary dissection and radiotherapy provided comparable overall and disease free survival to modified radical mastectomy.[8]
- The National Cancer Institute concluded that to date there is no consensus regarding a reliable algorithm to identify subgroups of patients who have lumpectomy for breast cancer but at such low risk of local recurrence that postoperative radiation therapy can be omitted. In contrast, there is no subset of patients identified in prospective randomized control trials that did not benefit from the addition of radiation therapy to lumpectomy in the management of breast cancer treatment.[9]

Clinical Recommendations

- The National Comprehensive Cancer Network's (NCCN) 2007 Clinical Practice Guidelines in Oncology recommend that women undergoing breast-conserving therapy receive post-operative radiotherapy.[10]
- The Institute for Clinical Systems Improvement (ICSI) guideline for breast cancer treatment recommends post-operative radiation for patients undergoing breast conserving therapy.[11]

Source

Health Benchmarks, Inc.

Items in the denominator, denominator exclusion, and numerator were adapted from Nattinger, A.B. et al.[12, 13]

Denominator Definition

Continuously enrolled women age 70 years or younger who have undergone breast conserving surgery to treat a confirmed primary diagnosis of breast cancer during the year prior to the measurement year.

Denominator Codes

Diagnostic procedure on the breast

CPT-4 code(s): 19000, 19001, 19100-19103, 19110, 19112, 38740, 38745, 38525

ICD-9 surgical proc code(s): 85.1x, 85.91

Primary diagnosis of carcinoma of the breast after the date of service for the diagnostic procedure

ICD-9 diagnosis code(s): 174.xx, 233.0

Breast conserving surgery on or after the date of service for the diagnostic procedure or the primary diagnosis of carcinoma of the breast

CPT-4 code(s): 19120, 19125, 19126

ICD-9 surgical proc code(s): 85.20, 85.21

Partial mastectomy with or without lymphadenectomy on or after the date of service for the diagnostic procedure or the primary diagnosis of carcinoma of the breast

CPT-4 code(s): 19160, 19162

ICD-9 surgical proc code(s): 85.22, 85.23

**Denominator
Exclusion Definition**

Women who had evidence of pregnancy 0-12 months after the index date, women who underwent a mastectomy 0-12 months after the index date, women who were diagnosed with scleroderma or lupus any time in the member's history, women who underwent an additional excision procedure 0-12 months after the index date, women who were diagnosed with other cancers anytime in the member's history, or women who were diagnosed with carcinoma of the breast during the 1 year period beginning 2 years prior to the measurement year.

**Denominator
Exclusion Codes**

Pregnancy

ICD-9 diagnosis code(s): 630.xx-677.xx, V22.xx, V23.xx, V24.xx, V27.xx, V28.xx

ICD-9 surgical proc code(s): 66.62, 69.0x, 72.xx-75.xx

CPT-4 code(s): 59000, 59001, 59012, 59015, 59020, 59025, 59030, 59050, 59051, 59070, 59072, 59074, 59076, 59100, 59120, 59121, 59130, 59135, 59136, 59140, 59150, 59151, 59160, 59200, 59300, 59320, 59325, 59350, 59400, 59409, 59410, 59412, 59414, 59425, 59426, 59430, 59510, 59514, 59515, 59525, 59610, 59612, 59614, 59618, 59620, 59622, 59812, 59820, 59821, 59830, 59840, 59841, 59850-59852, 59855-59857, 59866, 59870, 59871, 59897-59899, 76801, 76802, 76805, 76810-76812, 76815-76819, 76825-76828, 76941, 76945, 76946, 82106, 82143, 82731, 88235, 88267, 88269

DRG code(s): 370-391

Mastectomy

CPT-4 code(s): 19180-19240

ICD-9 surgical proc code(s): 85.33-85.36, 85.41-85.48

Scleroderma

ICD-9 diagnosis code(s): 710.1

Lupus

ICD-9 diagnosis code(s): 695.4, 710.0

Excision procedure

CPT-4 code(s): 19120, 19125, 19126

ICD-9 surgical proc code: 85.20, 85.21

Other cancers

ICD-9 diagnosis code(s): 140.xx-173.9, 175.xx-195.8, 197.xx-199.1, 230.xx-232.xx, 233.1x-233.9, 235.xx-237.xx, 238.1, 238.2, 238.4x-238.9x, 239.0x-239.2, 239.4-239.9

Carcinoma of the breast

ICD-9 diagnosis code(s): 174.xx, 233.0

Numerator Definition Members who received radiation therapy during the 0-12 months after the index date.

Numerator Codes Radiation therapy
CPT-4 code(s): 19296-19298, 77261-77499, 77520-77525, 77750-77799

Physician Attribution Description Score all physicians (in the selected specialties) who saw the member 0-12 months after the index date.

References

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