

Medical Policy



An Independent Licensee of the
Blue Cross and Blue Shield Association.

Title: High Dose Rate (HDR) Breast Brachytherapy with HDR Radioactive Source via MammoSite Catheter

Professional

Original Effective Date: July 1, 2007

Revision Date(s):

Current Effective Date: July 1, 2007

Institutional

Original Effective Date: July 1, 2007

Revision Date(s):

Current Effective Date: July 1, 2007

DESCRIPTION

Brachytherapy is a form of radiation treatment used to stop the growth of cancer cells and involves placing a radioactive isotope directly into or near a tumor. This allows the tumor to receive a dose of radiation while reducing the exposure to surrounding tissue. Treatment time varies, depending upon the method of treatment, the type of radioactive material, and the cancer site.

POLICY

- A. Brachytherapy used as accelerated partial breast irradiation (local boost irradiation) is a medically appropriate treatment option in women with stage 0, I, or II breast cancer who are also treated with breast-conserving surgery and whole-breast radiation therapy.
- B. Brachytherapy as the sole form of breast irradiation after breast-conserving surgery for early stage breast cancer (Stage 0, I, or II – based on size only – over 2 cm) is considered investigational. It may be considered as a medically appropriate treatment option in limited circumstances for patients in whom whole-breast external beam irradiation is not feasible, although this is not the current standard of care. These patients fall into one of the two categories:
 1. Patients with anatomic difficulties (e.g. large, pendulous breasts) that prevent delivery of traditional whole-breast external beam radiation without compromising large sections of the lung; or
 2. Patients with infirmities (e.g. arthritis, severe pulmonary disease, multiple medical problems) that make the tolerance of a 6-7 week course of radiotherapy difficult or impossible.

CODING

CPT

19296 Placement of radiotherapy afterloading balloon catheter into the breast for interstitial radioelement application following partial mastectomy,

Current Procedural Terminology © 2006 American Medical Association. All Rights Reserved.

- includes imaging guidance; on date separate from partial mastectomy
- 19297 Placement of radiotherapy afterloading balloon catheter into the breast for interstitial radioelement application following partial mastectomy, includes imaging guidance; concurrent with partial mastectomy (List separately in addition to code for primary procedure)
- 19298 Placement of radiotherapy afterloading brachytherapy catheters (multiple tube and button type) into the breast for interstitial radioelement application following (at the time of or subsequent to) partial mastectomy, includes imaging guidance

DIAGNOSIS

These diagnoses are otherwise subject to medical policy as stated above

- 174.0 Malignant neoplasm of female breast; Nipple and areola
- 174.1 Malignant neoplasm of female breast; Central portion
- 174.2 Malignant neoplasm of female breast; Upper-inner quadrant
- 174.3 Malignant neoplasm of female breast; Lower-inner quadrant
- 174.4 Malignant neoplasm of female breast; Upper-outer quadrant
- 174.5 Malignant neoplasm of female breast; Lower-outer quadrant
- 174.6 Malignant neoplasm of female breast; Axillary tail
- 174.8 Malignant neoplasm of female breast; Other specified sites of female breast

REFERENCES

1. Arthur DW, Vicini FA, Kuske RR, et al. Accelerated partial breast irradiation: An updated report from the American Brachytherapy Society. *Brachytherapy* 2003; 1:184-90.
2. Benitez PR, Chen PY, Vicini, et al. Partial breast irradiation in breast conserving therapy by way of interstitial brachytherapy. *Am J Surg.* 2004; 188:355-64.
3. Galale RM, Martinez A, Mate T, et al. Long-term outcome by risk factors using conformal high-dose-rate brachytherapy (HDR-BT) boost with or without neoadjuvant androgen suppression for localized prostate cancer. *Int J Radiat Oncol Biol Phys.* 2004; 58(4):1048-55.
4. Hematology/Oncology of North America. Radiation Therapy for Breast Cancer. *Hematol Oncol Clin N Am* 20. (2006); 239-257.
5. Hematology/Oncology of North America. The emergence of advanced brachytherapy techniques for common malignancies. *Hematol Oncol Clin N Am* 20. (2006); 97-118.
6. Huber RM, Fischer R, Hautmann H, et al. Does additional brachytherapy improve the effect of external irradiation? A prospective, randomized study in central lung tumors. *Int J Radiat Oncol Biol Phys.* 1997; 38(3):533-40.
7. Keisch M, Vicini F, Kuske R et al. Initial clinical experience with the MammoSite breast brachytherapy applicator in women with early stage breast cancer

- treated with breast conserving therapy. *Int J Radiat Oncol Biol Phys.* 2003; 55:289-93.
8. Kestin LL, Martinez AA, Stromberg JS et al. Matched-pair analysis of conformal high-dose-rate brachytherapy boost versus external-beam radiation therapy alone for locally advanced prostate cancer. *J Clin Oncol.* 2000; 18(15):2869-80.
 9. King TA, Bolton JS, Kuske RR, et al. Long term results of wide field brachytherapy as the sole method of radiation therapy after segmental mastectomy for T(is, 1,2) breast cancer. *Am J Surg.* 2000; 180:299-304.
 10. Martinez A, Gonzalez J, Spencer W, et al. Conformal high dose rate brachytherapy improves biochemical control and causes specific survival in patients with prostate cancer and poor prognostic factors. *J Urol.* 2003; 169(3):974-80.
 11. Perol M, Caliandro R, Pommier P, et al. Curative irradiation of limited endobronchial carcinomas with highdose rate brachytherapy. Results of a pilot study. *Chest.* 1997; 111(5):1417-23.
 12. Polgar C, Sulyok Z, Fodor J, et al. Sole brachytherapy of the tumor bed after conservative surgery for T1 breast cancer; five year results of a phase I-II study and initial findings of a randomized phase III trial. *J Surg Oncol.* 2002; 80:121-28.
 13. Raben A, Mychalczak B. Brachytherapy for non-small cell lung cancer and selected neoplasms of the chest. *Chest.* 1997; 112(4 suppl):276S-286S.
 14. Tam Truong, M. Hematology/Oncology Clinics of North America. Current role of radiation therapy in the management of malignant brain tumors. *Hematol Oncol Clin N Am.* 2006; (20):431-453.
 15. The American Society of Breast Surgeons. Consensus statement for accelerated partial breast irradiation. (2005). Available at: <http://www.breastsurgeons.org/apbi.shtml>. Accessed on October 5, 2006.
 16. Ung C, Yu E, Falkson C, et.al. The role of high-dose-rate brachytherapy in the palliation of symptoms in patients with non-small-cell lung cancer: A systematic review. *Brachytherapy.* 2006; 5(189-202).
 17. University of Wisconsin. Phase II Multicatheter HDR breast brachytherapy. NCT00214149: Last update October 27, 2005. Available at: <http://clinicaltrials.gov/show/NCT00214149>. Accessed on October 5, 2006.
 18. Vicini FA, Kestin L, Chen P, et al. Limited field radiation therapy in the management of early stage breast cancer. *J Natl Cancer Inst.* 2003; 95:1205-11.
 19. Vicini FA, Beitsch P, Quiet C, et al. First analysis of patient demographics, technical reproducibility, cosmesis, and early toxicity. Results of the American Society of Breast Surgeons MammoSite breast brachytherapy registry trial. *Cancer.* 2005; 104(6):1138-1148). Available at: <http://www3.interscience.wiley.com/cgi-bin/fulltext/110577848/PDFSTART>. Accessed on October 9, 2006.
 20. Vicini FA, Vargas C, Edmundson G, et al. The role of high dose rate brachytherapy in locally advanced prostate cancer. *Semin Radiat Oncol.* 2003; 13(2):98-108.

21. Villanueva AG, Lo TC, Beamis JF. Endobronchial brachytherapy. Clin Chest Med. 1995; 16(3):445-54.
22. Oncology Liaison Committee February 20, 2007 and Medical Advisory Committee April 19, 2007.

Government Agency; Medical Society; and Other Authoritative Publications

1. Blue Cross Blue Shield Association. Brachytherapy for accelerated partial breast irradiation after breastconserving surgery for early stage breast cancer. TEC Assessment 2002; 17(18).
2. Blue Cross and Blue Shield of Kansas Radiology Liaison Committee, February 28, 2007 (see Blue Cross and Blue Shield of Kansas Newsletter, Blue Shield Report. MAC-01-07).
3. Blue Cross and Blue Shield of Kansas Medical Advisory Committee meeting, April 19, 2007 (see Blue Cross and Blue Shield of Kansas Newsletter, Blue Shield Report. MAC-01-07).
4. Hayes Inc. Medical Technology Directory. *Simultaneous Irradiation (ProstRcision®) for Localized Prostate Cancer*. Lansdale, PA: Hayes, Inc.; August 23, 2006.
5. Hayes Inc. Medical Technology Directory. *Brachytherapy for Breast Cancer*. Lansdale, PA: Hayes, Inc.; April, 2000. Search updated November 17, 2005.
6. Hayes Inc. Medical Technology Directory. *Transperineal Ultrasound- Guided Brachytherapy for Early Stage Prostate Cancer*. Lansdale, PA: Hayes, Inc.; September, 2002. Search updated August 14, 2006.
7. Hayes Inc. *Brachytherapy for Lung Cancer*. Lansdale, PA: Hayes, Inc.; May 8, 2000. Search updated December 28, 2005.
8. Hayes Inc. Medical Technology Directory. *Brachytherapy for Lung Cancer*. Lansdale, PA: Hayes, Inc.; May, 2000. Search updated December 28, 2005.
9. National Comprehensive Cancer Network (NCCN). Breast Cancer. Clinical Practice Guidelines in Oncology – v.2.2006. Available at: http://www.nccn.org/professionals/physician_gls/PDF/breast.pdf. Accessed on September 18, 2006.

Web site

1. American Cancer Society. Radiation therapy guide for patients and families. Revised February 7, 2006. Available at: http://www.cancer.org/docroot/ETO/ETO_1_5x_radiation_therapy_guide_for_patients_and_families.asp. Accessed on September 15, 2006.
2. National Cancer Institute (NCI). Radiation therapy for cancer: Questions and Answers. Reviewed August 24, 2004. Available at: <http://www.cancer.gov/cancertopics/factsheet/Therapy/radiation>. Accessed on September 14, 2006.

3. National Cancer Institute. Breast cancer physician data query (PDQ®): Treatment. Last modified July 11, 2006. Available at:
<http://www.cancer.gov/cancertopics/pdq/treatment/breast/healthprofessional>.
Accessed on September 14, 2006.