



Magellan Healthcare	
Clinical guideline: BRACHYTHERAPY (Low Dose Radiation (LDR), High Dose Radiation (HDR), Selective Internal Radiation Therapy (SIRT, Electronic Brachytherapy)	Original Date: November, 2013 Page 1 of 5
CPT Codes: LDR: 77761, 77762, 77763, 77778, 77789 HDR: 77767, 77768, 77770, 77771, 77772 Electronic Brachytherapy: 0394T, 0395T	Last Review Date: July 2017
Guideline Number: NIA_CG_224 - 1	Last Revised Date: July 2017
Responsible Department: Clinical Operations	Implementation Date: January 2018

INTRODUCTION:

This guideline applies to other cancers not listed below for programs that manage all cancer sites. LDR (low dose rate brachytherapy) and HDR (high dose rate brachytherapy) must be requested separately and are not interchangeable.

Refer to applicable site-specific guidelines for the management of primary malignancies. Applicable site-specific guidelines may include all or some of the sites below, depending on the specific program.

- Anal Cancer
- Bone Metastases
- Breast Cancer
- Cervical Cancer
- CNS Cancer
- Colon Cancer
- Rectal Cancer
- Endometrial Cancer
- Gastric Cancers
- Head and Neck Cancer
- Lung - Non Small Cell
- Lung - Small Cell Lung Cancer
- Lymphoma - Hodgkin's Lymphoma
- Lymphoma -Non Hodgkin's Lymphoma
- Pancreas Cancer
- Prostate Cancers

For metastasis to the brain, regardless of primary site, refer to the NIA clinical guideline for Central Nervous System (CNS). For metastasis to bone, refer to the NIA clinical guideline for Bone Metastases. For all other metastases, refer to the NIA clinical guideline for Metastatic Disease.

Initial Clinical Reviewers (ICRs) and Physician Clinical Reviewers (PCRs) must be able to apply criteria based on individual needs and based on an assessment of the local delivery system.

TREATMENT OPTIONS REQUIRING PHYSICIAN REVIEW

- Brachytherapy for sites beyond those listed above may be approvable with submission of supportive documentation.
- Intracavitary balloon catheter brain brachytherapy for malignant gliomas or metastasis to the brain is considered *investigational*.
- Selective Internal Radiation Therapy (SIRT), also known as radioembolization with microsphere brachytherapy device (RMBD) and transarterial radioembolization, uses microscopic radioactive spheres to deliver radiation to the tumor site. Treatment is delivered through catheter injection of radioactive Yttrium-90 (90Y) microspheres into the hepatic artery. Indications for SIRT include:
 - unresectable metastatic liver tumors – see **“Metastatic Disease Guideline”**
 - unresectable metastatic liver tumors from primary colorectal cancer see **“Metastatic Disease Guideline”**
 - unresectable primary hepatocellular carcinoma
 - unresectable neuroendocrine tumors
- The use of electronic brachytherapy for basal cell and squamous cell cancers of the skin (of non-melanomatous skin cancers) and benign skin conditions are considered investigational and experimental at this time.

REFERENCES

- ACR-SIR Practice Parameter for Radioembolization with Microsphere Brachytherapy Device (RMBD) for Treatment of Liver Malignancies. (2014) Accessed on April 21, 2016 at: <http://www.acr.org/~media/d8086059b5f541e9b64e55d68a71693b.pdf>
- American Brachytherapy Society. References for breast cancer.
http://www.americanbrachytherapy.org/professionals/abstracts_new/viewCategory.cfm?id=2
- American Brachytherapy Society. References for cervix cancer.
http://www.americanbrachytherapy.org/professionals/abstracts_new/viewCategory.cfm?id=3
- American Brachytherapy Society. References for prostate cancer.
http://www.americanbrachytherapy.org/professionals/abstracts_new/viewCategory.cfm?id=1
- American Society for Radiation Oncology (ASTRO). Brachytherapy Model Policy. December 21, 2012. Accessed on May 12, 2017 at:
https://www.astro.org/uploadedFiles/MAIN_SITE/Daily_Practice/Reimbursement/Model_Policies/Content_Pieces/BrachyMP.pdf
- Beriwal, S., Demanes, D. J., Erickson, B., Jones, E., De Los Santos, J. F., Cormack, R. A., Viswanathan, A. N. (2012). American Brachytherapy Society consensus guidelines for interstitial for vaginal cancer.
http://www.americanbrachytherapy.org/guidelines/Guidelines_Interstitial.pdf
- Bruix, J., Sherman, M. (2011) Management of hepatocellular carcinoma: an update. *Hepatology* 53(3):1020-1022. doi: 10.1002/hep.24199.
<http://www.ncbi.nlm.nih.gov/pubmed/21374666>
- Crook, J. M., Haie-Meder, C., Demanes, D. J., Mazon, J., Martinez, A. A., Pivard, M. J. (2013). American Brachytherapy Society consensus statement for penile brachytherapy.
http://www.americanbrachytherapy.org/guidelines/Guidelines_PenileBrachy.pdf
- Davis, B. J., Horwitz, E. M., Lee, R., Crook, J. M., Stock, R. G., Merrick, G. S., Zelefsky, M. J. (2012). American Brachytherapy Society consensus guidelines for transrectal ultrasound guided permanent prostate brachytherapy.
http://www.americanbrachytherapy.org/guidelines/Guidelines_Transrectal_Ultrasound.pdf
- Holloway, C. L., DeLaney, T. F., Alektiar, K. M., Devlin, P. M., O'Farrell, D. A., Demanes, D. J. (2013). American Brachytherapy Society (ABS) consensus statement for sarcoma brachytherapy.
http://www.americanbrachytherapy.org/guidelines/Guidelines_SarcomaBrachy.pdf

- Hsu, I., Yamada, Y., Vigneault, E., Pouliot, J. (2008) American Brachytherapy Society. Prostate High-Dose Rate Task Group. <http://www.americanbrachytherapy.org/guidelines/HDRTaskGroup.pdf>
- Kelly, J.F., Delclos, M. E., Morice, R. C., Huaranga, A., Allen, P. K., Komaki, R. (2000) High-dose-rate endobronchial brachytherapy effectively palliates symptoms due to airway tumors: the 10-year M. D. Anderson cancer center experience. *Int J Radiat Oncol Biol Phys.* 1;48(3):697-702. <http://www.ncbi.nlm.nih.gov/pubmed/11020566>
- Kennedy, A., Nag, S., Salem, R., Murthy, R., McEwan, A. J., Nutting, C., Benson, A.,.... Coldwell, D. (2007). *Int J Radiat Oncol Biol Phys* 68(1):13-23. Recommendations for radioembolization of hepatic malignancies using Yttrium-90 microsphere brachytherapy: a consensus panel report from the radioembolization brachytherapy oncology consortium. <http://www.ncbi.nlm.nih.gov/pubmed/17448867>
- Lee, L. J., Das, I. J., Higgins, S. A., Jhingran, A., Small, W., Thomadsen, B.,Eifel, P. (2012). American Brachytherapy Society consensus guidelines for locally advanced carcinoma of the cervix. Part III. Low dose rate and pulsed-dose-rate brachytherapy. https://www.americanbrachytherapy.org/guidelines/Guidelines_Carcinoma_Cervix_Part_III.pdf
- Nag, S., Cano, E. R., Demanes, D. J., Puthawaia, A. A., Vikram, B. (2001) The American Brachytherapy Society recommendations for high-dose-rate brachytherapy for head-and-neck carcinoma. *Int J Radiat Oncol Biol Phys.* Aug 1;50 (5):1190-8. <http://www.ncbi.nlm.nih.gov/pubmed/11483328>
- Nag, S., Kelly, J. F., Horton, J. L., Komaki, R., Nori, D. (2001) *Oncology.* Brachytherapy for carcinoma of the lung. Mar;15(3):371-81. <http://www.cancernetwork.com/review-article/brachytherapy-carcinoma-lung>
- Nag, S., Quivey, J. M., Earle, J. D., Followill, D., Fontanesi, J., Finger, P. T. (2003). The American Brachytherapy Society recommendations for brachytherapy of uveal melanomas. *Int J Radiat Oncol Biol Phys.* Jun 1; 56(2):544-55. <http://www.ncbi.nlm.nih.gov/pubmed/12738332>
- Nag, S., Shasha, D., Janjan, N., Petersen, I., Zaider, M. (2001). The American Brachytherapy Society recommendations for brachytherapy of soft tissue sarcomas. *Int J Radiat Oncol Biol Phys.* Mar 15;49(4):1033-43. <http://www.ncbi.nlm.nih.gov/pubmed/11240245>
- Park, C. C., Yom, S. S., Podgorsak, M. B., Harris, E., Price, R. A., Bevan, A., Pouliot, J.... Wallner, P. E. (2010). American Society for Therapeutic Radiology and Oncology (ASTRO) Emerging Technology Committee report on electronic brachytherapy. *Int J Radiat Oncol Biol Phys.* Mar 15; 76(4):963-72. <http://www.ncbi.nlm.nih.gov/pubmed/20206016>
- Small, W., Beriwal, S., Demanes, D. J., Dusenbery, K. E., Eifel, P., Erickson, B.,.....Gaffney, D. (2012). The American Brachytherapy Society consensus guidelines for adjuvant

vaginal cuff brachytherapy after hysterectomy.

http://www.americanbrachytherapy.org/guidelines/Guidelines_Hysterectomy.pdf

The American Brachytherapy Society - Ophthalmic Oncology Task Force (2013). The American Brachytherapy Society consensus guidelines for plaque brachytherapy of uveal melanoma and retinoblastoma.

http://www.americanbrachytherapy.org/guidelines/plaque_brachytherapy_melanoma_retinoblastoma.pdf.

The COMS randomized trial of iodine 125 brachytherapy for choroidal melanoma: V.

Twelve-year mortality rates and prognostic factors: COMS report No. 28. Arch

Ophthalmol. 2006 Dec;124(12):1684-93. <http://www.ncbi.nlm.nih.gov/pubmed/17159027>

Viswanathan, A. N., Beriwal, S., De Los Santos, J. F., Demanes, D. J., Gaffney, D., Hansen, J., Jones, E.,Erickson, B. (2012). American Brachytherapy Society consensus guidelines for locally advanced carcinoma of the cervix. Part II. High dose brachytherapy.

https://www.americanbrachytherapy.org/guidelines/Guidelines_Carcinoma_Cervix_Part_II.pdf

Viswanathan, A. N., Thomadsen, B. (2012). American Brachytherapy Society consensus guidelines for locally advanced carcinoma of the cervix. Part I. General principles.


https://www.americanbrachytherapy.org/guidelines/Guidelines_Carcinoma_Cervix_Part_1.pdf

Yamada, Y., Rogers, L., Demanes, D. J., Morton, G., Prestidge, B. R., Pouliot, J.,Hsu, I. (2012). American Brachytherapy Society consensus guidelines for high-dose-rate prostate brachytherapy.

http://www.americanbrachytherapy.org/guidelines/Guidelines_High-Dose-Rate_Prostate.pdf

Yao, M.S., Koh, W. J. (2001) Endobronchial brachytherapy. Chest Surg Clin N Am. Nov;

11(4):813-27. <http://www.ncbi.nlm.nih.gov/pubmed/11780297>

Reviewed/Approved by  Michael Pentecost, MD, Chief Medical Officer