National Imaging Associates, Inc.*	
Clinical guideline: **METASTATIC DISEASE**	**Original Date: November 2013**
CPT Codes: **All Treatment Modalities**	**Last Revised Date: February 2021**
Guideline Number: NIA_CG_228	**Implementation Date: January 2022**

INDICATIONS FOR THE TREATMENT OF METASTASIS

BRAIN: For metastasis to the brain, regardless of primary site, refer to the NIA clinical guideline for Central Nervous System (CNS).

BONE: For metastasis to bone, refer to the NIA clinical guideline for bone metastases.

ALL OTHER SITES: For metastasis to any other site other than brain or bone:

- Conventional 2D and 3D-CRT treatment delivery is appropriate for all other secondary malignancies up to ten (10) fractions (NCCN, 2019).
    - Treatment beyond ten fractions for 2D-3D-CRT requires physician review and a clinical rationale for additional fractions.

TREATMENT OPTIONS REQUIRING PHYSICIAN REVIEW

- **IMRT** is not indicated for treatment of metastasis except for limited circumstances in which radiation therapy is indicated and 3D conformal radiation therapy (3D-CRT) techniques cannot adequately deliver the radiation prescription without exceeding normal tissue radiation tolerance, the delivery is anticipated to contribute to potential late toxicity or tumor volume dose heterogeneity is such that unacceptable hot or cold spots are created. If IMRT is utilized, techniques to account for respiratory motion should be performed when appropriate.
    - Clinical rationale and documentation for performing IMRT rather than 2D or 3D-CRT treatment planning and delivery will need to:
        - Demonstrate how 3D-CRT isodose planning cannot produce a satisfactory treatment plan (as stated above) via the use of patient-specific dose volume histograms and isodose plans. 3D-CRT techniques such as step-and-shoot or field-in-field should be considered for the comparison.

* National Imaging Associates, Inc. (NIA) is a subsidiary of Magellan Healthcare, Inc.

        - Confirm the IMRT requested will be inversely planned (forward plans or 'field-in-field' plans are not considered IMRT).

- **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: (ACR, 2015; Wang, 2018)
    - Unresectable metastatic liver tumors
    - Unresectable metastatic liver tumors from primary colorectal cancer
    - Unresectable primary hepatocellular carcinoma
    - Unresectable neuroendocrine tumors

- Oligometastatic Disease: Stereotactic Body Radiation Therapy (SBRT) is medically necessary for extracranial oligometastatic disease for an individual with One (1) to Four (4) metastatic lesions when the following criteria are met:
    - Good performance status: ECOG less than 3 or Karnofsky Scale greater than or equal to 70% and stable systemic disease or reasonable systemic treatment options.

- All other treatment approaches require physician review with presentation of clinical rationale and documentation for the proposed treatment modality and plan.

POLICY HISTORY

Date	Summary
February 2021	Added**:** • Oligometastatic Disease: Stereotactic Body Radiation Therapy (SBRT) is medically necessary for extracranial oligometastatic disease for an individual with One (1) to Four (4) metastatic lesions when the following criteria are met: ○ Good performance status: ECOG less than 3 or Karnofsky Scale greater than or equal to 70% and stable systemic disease or reasonable systemic treatment options • Added References
February 2020	No Changes
February 2019	Added and updated references

REFERENCES

American College of Radiology (ACR) Appropriateness Criteria®. Radiologic Management of Hepatic Malignancy. https://acsearch.acr.org/docs/69379/Narrative/. Published 2015. Accessed May 1, 2018.

American College of Radiology (ACR) - SIR practice parameter for radioembolization with microsphere brachytherapy device (RMBD) for treatment of liver malignancies. http://www.acr.org/~/media/ACR/Documents/PGTS/guidelines/RMBD.pdf. Published 2014. Accessed May 17, 2016.

American Society for Radiation Oncology (ASTRO) Model Policy. Stereotactic Body Radiation Therapy (SBRT). https://www.nccn.org/professionals/physician_gls/pdf/sarcoma.pdf. Published 2014. Accessed May 15, 2017.

Bentzen SM, Constine LS, Deasy JO, et al. Quantitative analyses of normal tissue effects in the clinic QUANTEC: An introduction to the scientific issues. Introductory paper. *Int J Radiat Oncol Biol Phys*. 2010; 76(3):S3-S9.

Bernard, B. Gershman B, Karnes RJ, Sweeney CJ, Vapiwala N. Approach to Oligometastatic Prostate Cancer.*American Society of Clinical Oncology Educational Book*; 2018 Oct 29; (36). 119-129. doi:10.1200/EDBK_159241.

Cheung P. Stereotactic body radiotherapy for oligoprogressive cancer. *Br J Radiol*. October 2016; 89(1066):20160251.

Corbin KS, Hellman S, Weichselbaum RR. Extracranial oligometastases: A subset of metastases curable with stereotactic radiotherapy. *J Clin Oncol*. 2013 Apr 10; 31(11):1384-1390.

Jackson A, Marks LB, Bentzen SM, et al. The lessons of QUANTEC: Recommendations for reporting and gathering data on dose-volume dependencies of treatment outcome. *Int J Radiat Oncol Biol Phys*. 2010; 76(3):S155-S160.

Kennedy AS, Dezam WA, McNeillie P, et al. Radioembolization for unresectable neuroendocrine hepatic metastases using resin 90Y-microspheres: Early results in 148 patients. *Am J Clin Oncol*. June 2008; 31(3):271-279. http://www.carcinoid.org/wp-content/uploads/2015/10/KennedyY90-microspheres_2008.pdf. Accessed on May 17, 2016.

National Comprehensive Cancer Network (NCCN). See Metastasis per cancer site. 2019.

Palma, DA, Olson RA S. Harrow, S. Gaede, A.V. Louie, C. Haasbeek, L.A. Mulroy, M.I. Lock, and others. Stereotactic Ablative Radiation Therapy for the Comprehensive Treatment of Oligometastatic Tumors (SABRCOMET):Results of a Randomized Trial. *Int J Radiat Oncol Biol Phys*.; 2018 Nov 01;102(3): S3–S4 (abstract).

Paprottka PM, Hoffmann RT, Haug A, et al. Radioembolization of symptomatic, unresectable neuroendocrine hepatic metastases using yttrium-90 microspheres. *Cardiovasc Intervent Radiol.* 2012; 35(2):334-342. http://www.ncbi.nlm.nih.gov/pubmed/21847708. Accessed May 17, 2016.

Salama JK, Hasselle MD, Chmura SJ, et al. Stereotactic body radiotherapy for multisite extracranialoligometastases: Final report of a dose escalation trial in patients with 1 to 5 sites of metastatic disease. *Cancer*.2012 Jun 1; 118(11):2962-2970.

Wang T-H, Huang P-I, Hu Y-W, et al. Combined yttrium-90 microsphere selective internal radiation therapy and external beam radiotherapy in patients with hepatocellular carcinoma: From clinical aspects to dosimetry. *PloS One*. January 2, 2018; 13(1). http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0190098.

Reviewed / Approved by NIA Clinical Guideline Committee

GENERAL INFORMATION

It is an expectation that all patients receive care/services from a licensed clinician. All appropriate supporting documentation, including recent pertinent office visit notes, laboratory data, and results of any special testing must be provided. If applicable: All prior relevant imaging results and the reason that alternative imaging cannot be performed must be included in the documentation submitted.