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Subject: Brachytherapy-Oncologic Applications

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DESCRIPTION:

Brachytherapy is a type of radiation therapy that utilized radioactive isotopes for internal treatment of malignancies or benign conditions by means of a radioactive source placed directly on the target surface, into a body cavity (intracavitary), within the body tissues (interstitial) or near the tumor or target tissue.

Intracavitary brachytherapy is performed by placement of applicators directly in a tumor or body cavity. The applicator is loaded with a radioactive isotope (e.g., radium, cesium, iridium). Interstitial brachytherapy is performed by placement of applicators directly within body tissues. Interstitial brachytherapy is performed with needles, ribbons, or wires containing radioactive materials. Brachytherapy that requires penetration of the skin or surgery for applicator insertion is considered interstitial. Surface application brachytherapy involves the application of radioactive materials that are placed directly on the skin or other external target surface. Some radioactive materials may be left in place permanently or temporarily.

Brachytherapy may be used alone as the sole treatment or as an adjunctive treatment with external beam radiation therapy (EBRT) or other modalities such as surgery or chemotherapy. Brachytherapy may be either temporary or permanent. Brachytherapy radiation dose may be delivered at a low-dose rate (LDR), high-dose rate (HDR), or pulsed dose-rate (PDR). Low-dose rate brachytherapy radioactive isotopes may be placed either temporarily or permanently and is manually or remotely loaded into applicators to deliver the prescribed treatment at a continuous rate over several hours or days. LDR brachytherapy is may be delivered at a continuous rate over several hours or days in a hospital setting or in an ambulatory or setting. High-dose rate brachytherapy radioactive isotopes are temporary and are delivered by remote after-loading. Pulsed dose-rate brachytherapy treatment delivery is similar to LDR, but occurs in periodic pulses, usually one per hour rather than continuously.

The clinical use of brachytherapy is complex and may involve multiple medical specialists (e.g., radiation oncologist, medical physicist, radiation therapists, dosimetrist). In addition to a radiation oncologist, brachytherapy may require that other specialists perform related but separate procedures before, during, or after brachytherapy.

POSITION STATEMENT:

Brachytherapy **meets the definition of medical necessity** for the following indications

Breast Cancer

After breast-conserving surgery for early-stage breast cancer, accelerated whole-breast irradiation (AWBI) **meets the definition of medical necessity** for members who meet the following conditions:

- Age 45 years or older
- Clear surgical margins (i.e., no ink on tumor on invasive carcinoma or ductal carcinoma in situ)
- Invasive carcinoma of the breast
- Negative lymph nodes
- Tumors less than or equal to 3 cm

Accelerated partial breast irradiation (APBI) **meets the definition of medical necessity** for members who meet **ALL** of the following criteria:

- Age 45 years or older; **AND**
- Invasive breast carcinoma or ductal carcinoma in situ (DCIS); **AND**
- Tumor less than or equal to 3 cm with negative surgical margins; **AND**
- Negative lymph nodes.

Intraoperative radiation therapy (IORT) **meets the definition of medical necessity** for members who meet **ALL** of the following criteria:

- Age 50 years or older; **AND**
- Tumor less than or equal to 3 cm with grossly uninvolved surgical margins; **AND**
- Lymph nodes are grossly negative and negative on intraoperative frozen section if performed.

Interstitial or balloon brachytherapy **meets the definition of medical necessity** for members undergoing initial treatment for stage I or II breast cancer when used as local boost irradiation in those who are also treated with breast-conserving surgery and whole-breast external-beam radiotherapy.

Noninvasive brachytherapy using AccuBoost for members undergoing initial treatment for stage I or II breast cancer when used as local boost irradiation in those who are also treated with breast-conserving surgery and whole-breast external-beam radiotherapy is

considered **experimental or investigational**. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

Endobronchial brachytherapy

- metastatic, or recurrent endobronchial tumors
- In members with primary endobronchial tumors who are not otherwise candidates for surgical resection or external-beam radiotherapy due to comorbidities or location of the tumor.

Other applications of endobronchial brachytherapy are **experimental or investigational** including, but not limited to, its use as a radiation "boost" to curative external-beam radiotherapy, as a treatment for asymptomatic recurrences of non-small cell lung cancer, or in the treatment of hyperplastic granulation Endobronchial brachytherapy **meets the definition of medical necessity** for the following conditions:

- As a palliative therapy for airway obstruction or severe hemoptysis in members with primary,

tissue. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

Prostate Cancer

Brachytherapy using permanent transperineal implantation of radioactive seeds **meets the definition of medical necessity** for the treatment of localized prostate cancer when used in conjunction with external-beam radiotherapy or as monotherapy.

Focal prostate brachytherapy is considered **experimental or investigational** in the treatment of prostate cancer. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

High-dose rate prostate brachytherapy **meets the definition of medical necessity** as monotherapy or in conjunction with external-beam radiotherapy in the treatment of localized prostate cancer.

High-dose rate prostate brachytherapy is considered **experimental or investigational** in the treatment of prostate cancer when used as salvage therapy. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

Other

Brachytherapy **meets the definition of medical necessity** for the following indications:

- Cholangiocarcinoma
- Esophageal cancer
- Eye tumors (e.g., uveal melanoma, retinoblastoma)
- Genitourinary cancers (e.g., penile, urethral)
- Gynecologic cancers (e.g., cervical, endometrial, uterine, vulvar, vaginal)

- Head and neck cancers (e.g., lip, oral cavity, pharynx, sinus)
- Lung cancer (non-small, small cell)
- Skin cancer
- Soft tissue sarcoma.

Electronic brachytherapy for the treatment of nonmelanoma skin cancer is considered **experimental or investigational**. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

BILLING/CODING INFORMATION:

Note: Procedure and diagnoses codes may not be all inclusive.

CPT Code:

0394T	High dose rate electronic brachytherapy, skin surface application, per fraction, includes basic dosimetry, when performed **(investigational)**
0395T	High dose rate electronic brachytherapy, interstitial or intracavitary treatment, per fraction, includes basic dosimetry, when performed **(investigational)**
19296	Placement of radiotherapy afterloading expandable catheter (single or multichannel) into the breast for interstitial radioelement application following partial mastectomy, includes imaging guidance; on date separate from partial mastectomy
19297	Placement of radiotherapy afterloading expandable catheter (single or multichannel) 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
20555	Placement of needles or catheters into muscle and/or soft tissue for subsequent interstitial radioelement application (at the time of or subsequent to the procedure)
41019	Placement of needles, catheters, or other devices(s) into the head and/or neck region (percutaneous, transoral, or transnasal) for subsequent interstitial and radioelement application
55875	Transperineal placement of needles or catheters into prostate for interstitial radioelement application, with or without cystoscopy
55920	Placement of needles or catheters into pelvic organs and/or genitalia (except prostate) for subsequent interstitial radioelement application
57155	Insertion of uterine tandem and/or vaginal ovoids for clinical brachytherapy
57156	Insertion of vaginal radiation after loading apparatus for clinical brachytherapy

58346	Insertion of Heyman capsules for clinical brachytherapy
77316	Brachytherapy isodose plan; simple (calculation(s) made from 1 to 4 sources, or remote afterloading brachytherapy, 1 channel), includes basic dosimetry calculation(s)
77317	Brachytherapy isodose plan; intermediate (calculation(s) made from 5 to 10 sources, or remote afterloading brachytherapy, 2-12 channels), includes basic dosimetry calculation(s)
77318	Brachytherapy isodose plan; complex (calculation(s) made from over 10 sources, or remote afterloading brachytherapy, over 12 channels), includes basic dosimetry calculation(s)
77750	Infusion or instillation of radioelement solution
77761	Intracavitary radiation source application; simple
77762	Intracavitary radiation source application; intermediate
77763	Intracavitary radiation source application; complex
77767	Remote afterloading high dose rate radionuclide skin surface brachytherapy, includes basic dosimetry, when performed; lesion diameter up to 2.0 cm or 1 channel
77768	Remote afterloading high dose rate radionuclide skin surface brachytherapy, includes basic dosimetry, when performed; lesion diameter over 2.0 cm and 2 or more channels, or multiple lesions
77770	Remote afterloading high dose rate radionuclide interstitial or intracavitary brachytherapy, includes basic dosimetry, when performed; 1 channel
77771	Remote afterloading high dose rate radionuclide interstitial or intracavitary brachytherapy, includes basic dosimetry, when performed; 2-12 channels
77772	Remote afterloading high dose rate radionuclide interstitial or intracavitary brachytherapy, includes basic dosimetry, when performed; over 12 channels
77778	Interstitial radiation source application; complex
77789	Surface application of low dose rate radionuclide source
77790	Supervision, handling, loading of radiation source

HCPCS Coding:

G0458	Low dose rate (LDR) prostate brachytherapy services, composite rate
Q3001	Radioelements for brachytherapy any type

ICD-10 Diagnosis Codes That Support Medical Necessity:

C00.0 – C00.9	Malignant neoplasm of lip
C01	Malignant neoplasm of base of tongue
C02.0 – C02.9	Malignant neoplasm of other and unspecified parts of tongue
C03.0 – C03.9	Malignant neoplasm of gum
C04.0 – C04.9	Malignant neoplasm of floor of mouth
C06.0 – C06.2	Malignant neoplasm of other and unspecified parts of m Malignant neoplasm of mouth

C06.80 – C06.89	Malignant neoplasm of overlapping sites of other and unspecified parts of mouth
C06.9	Malignant neoplasm of mouth, unspecified
C07	Malignant neoplasm of parotid gland
C08.0 – C08.9	Malignant neoplasm of other and unspecified major salivary Malignant neoplasm of glands
C09.0 – C09.9	Malignant neoplasm of tonsil
C10.0 – C10.9	Malignant neoplasm of oropharynx
C11.0 – C11.9	Malignant neoplasm of nasopharynx
C13.0 – C13.9	Malignant neoplasm of hypopharynx
C14.0 – C14.8	Malignant neoplasm of other and ill-defined sites in the lip, oral cavity and pharynx
C15.3 – C15.9	Malignant neoplasm of esophagus
C22.1	Intrahepatic bile duct carcinoma
C24.0	Malignant neoplasm of extrahepatic bile duct
C30.0 – C30.1	Malignant neoplasm of nasal cavity and middle ear
C31.0 – C31.9	Malignant neoplasm of accessory sinuses
C32.0 – C32.9	Malignant neoplasm of larynx
C34.00 – C34.02	Malignant neoplasm of main bronchus
C34.10 – C34.12	Malignant neoplasm of upper lobe, bronchus or lung
C34.2	Malignant neoplasm of middle lobe, right bronchus or lung
C34.30 – C34.32	Malignant neoplasm of lower lobe, bronchus or lung
C34.80 – C34.82	Malignant neoplasm of overlapping sites of bronchus and lung
C34.90 – C34.92	Malignant neoplasm of bronchus or lung
C43.0-C43.9	Malignant melanoma
C44.00-C44.99	Other and unspecified malignant neoplasm of skin
C49.0 C49.10 – C49.12 C49.20 – C49.22 C49.3 – C49.9	Malignant neoplasm of other connective and soft tissue
C50.011 – C50.929	Malignant neoplasm of breast
C51.0 – C51.9	Malignant neoplasm of vulva
C52	Malignant neoplasm of vagina
C53.0 – C53.9	Malignant neoplasm of cervix uteri
C54.0 – C54.9	Malignant neoplasm of corpus uteri
C55	Malignant neoplasm of uterus, part unspecified
C57.7	Malignant neoplasm of other and specified female genital organs
C57.8	Malignant neoplasm of overlapping sites of female genital organs
C57.9	Malignant neoplasm of female genital organ, unspecified
C60.0 – C60.9	Malignant neoplasm of penis
C61	Malignant neoplasm of prostate
C69.20 – C69.22	Malignant neoplasm of retina
C69.40 – C69.42	Malignant neoplasm of ciliary body

C73	Malignant neoplasm of thyroid gland
C76.0	Malignant neoplasm of head, face and neck
C78.00 – C78.02	Secondary malignant neoplasm of lung
C78.7	Secondary malignant neoplasm of liver and intrahepatic bile duct
C79.81	Secondary malignant neoplasm of breast
C79.82	Secondary malignant neoplasm of genital organs
D00.1	Carcinoma in situ esophagus
D05.00 – D05.92	Carcinoma in situ breast
D06.0-D06.9	Carcinoma in situ of cervix uteri
D07.0	Carcinoma in situ of endometrium
D07.1	Carcinoma in situ of vulva
D07.2	Carcinoma in situ of vagina
D07.39	Carcinoma in situ of other female genital organs
Z51.5	Encounter for palliative care
Z85.820	Personal history of malignant melanoma of skin

LOINC Codes:

The following information may be required documentation to support medical necessity: physician history and physical, physician progress notes, plan of treatment and reason for brachytherapy.

Documentation Table	LOINC Codes	LOINC Time Frame Modifier Code	LOINC Time Frame Modifier Codes Narrative
Physician history and physical	28626-0	18805-2	Include all data of the selected type that represents observations made six months or fewer before starting date of service for the claim
Attending physician progress note	18741-9	18805-2	Include all data of the selected type that represents observations made six months or fewer before starting date of service for the claim
Plan of treatment	18776-5	18805-2	Include all data of the selected type that represents observations made six months or fewer before starting date of service for the claim

REIMBURSEMENT INFORMATION:

Refer to section entitled **POSITION STATEMENT**.

PROGRAM EXCEPTIONS:

Federal Employee Program (FEP): Follow FEP guidelines.

State Account Organization (SAO): Follow SAO guidelines.

Medicare Advantage products:

The following was reviewed on the last guideline reviewed date: Medicare Claims Processing Manual Chapter 13-Radiology Services and Other Diagnostic Procedures 70-Radiation Oncology (Therapeutic Radiology), 70.4-Clinical Brachytherapy located at cms.gov.

DEFINITIONS:

Intraoperative radiation therapy (IORT): Radiation treatment aimed directly at a tumor during surgery.

Irradiation: treated with radiation.

Metastatic: having to do with metastasis, which is the spread of cancer from the primary site (place where it started) to other places in the body.

RELATED GUIDELINES:

None applicable.

OTHER:

Other names used to describe brachytherapy:

Implant radiation therapy
Internal radiation therapy
Plaque brachytherapy
Radiation brachytherapy

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7. Blue Cross Blue Shield Association Evidence Positioning System®. 8.01.14 Brachytherapy for Clinically Localized Prostate Cancer Using Permanently Implanted Seeds, 08/22.
8. Blue Cross Blue Shield Association Evidence Positioning System®. 8.03.11 Endobronchial Brachytherapy, 08/22.
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COMMITTEE APPROVAL:

This Medical Coverage Guideline (MCG) was approved by the Florida Blue Medical Policy and Coverage Committee on 04/27/23.

GUIDELINE UPDATE INFORMATION:

11/15/10	New Medical Coverage Guideline.
01/01/11	Annual HCPCS coding update; added 57156. Revised 57155 code descriptor.
02/15/11	Updated Medicare Advantage program exception.
04/01/11	First quarter HCPCS update; deleted S2270.
10/01/11	Revision; formatting changes.
12/15/11	Annual review; maintain position statements. Updated references.
04/01/12	Update; added related ICD-10 codes.
01/01/13	Annual HCPCS coding update; added G0458.
05/11/14	Revision: Program Exceptions section updated.
01/01/15	Annual HCPCS code update. Deleted 77326, 77327 and 77328. Added 77316, 77317 and 77318.
10/01/15	Revision; updated ICD9 and ICD10 coding section.
11/01/15	Revision: ICD-9 Codes deleted.
01/01/16	Annual HCPCS code update. Added 0394T, 0395T, 77767, 77768, 77770, 77771, 77772, 77776 and 77777. Deleted 0182T, 77785, 77786 and 77787. Revised 77789 code descriptor. Updated program exceptions.
05/01/16	Revision; added/revised indications: breast cancer, central nervous system (CNS) cancers (intracranial, spinal, ocular, and neurologic indications), gastrointestinal cancers, non-colorectal (cholangioangiocarcinoma, esophageal, gastric, liver, and pancreatic), genitourinary, penile, gynecologic cancers (cervical, uterine, and vulvar/vaginal), and

	prostate cancer); added 77280, 72285, 77290, 77295, and 77799; updated ICD-10 codes; updated program exception; updated references.
08/15/16	Updated program exceptions.
08/31/16	Formatting change to Position Statement; APBI
11/15/16	Revision; revised position statement. Added 77424, 77425 and 77469. Updated references.
01/01/17	Annual HCPCS code update. Revised 19296, 19297 and 19298 code descriptor.
10/15/17	Revision; revised position statement. Updated references.
02/15/18	Revision; updated position statement, ICD-10 diagnoses codes and definitions. Added position statement for lung cancers (non-small cell and small cell) metastatic lesions in the lung and head and neck cancer.
03/15/21	Review/revision. Breast cancer: Added accelerated partial breast irradiation, intraoperative radiation therapy and criteria. Format change: Moved uterine and vulvar/vaginal cancer after gynecologic cancers/cervical cancer. Prostate cancer: Revised local recurrence criteria. High dose rate electronic brachytherapy: Deleted breast cancer. Added sarcoma, skin cancer and criteria. Updated ICD-10 codes and references.
05/15/23	Review: revised position statement. Updated coding and references.
12/15/23	Position statements maintained. Revised program exceptions.
01/01/24	Position statements maintained.