

EFFECTIVE DATE: 01|01|2017

POLICY LAST UPDATED: 10|15|2019

OVERVIEW

Electronic brachytherapy is a form of radiotherapy designed to deliver high-dose rate radiation to treat nonmelanoma skin cancer. This technique focuses a uniform dose of X-ray source radiation to the lesion with the aid of a shielded surface application.

This policy is applicable to Commercial Products only. For BlueCHiP for Medicare, see related policy section.

MEDICAL CRITERIA

Not applicable

PRIOR AUTHORIZATION

Not applicable

POLICY STATEMENT

Commercial Products

Electronic brachytherapy for the treatment of nonmelanoma skin cancer is considered not medically necessary as the evidence is insufficient to determine the effects of the technology on health outcomes.

COVERAGE

Benefits may vary between groups and contracts. Please refer to the appropriate Benefit Booklet, Evidence of Coverage or Subscriber Agreement for not medically necessary benefits/coverage.

BACKGROUND

NONMELANOMA SKIN CANCER

Squamous cell carcinoma and basal cell carcinoma are the most common types of nonmelanoma skin cancer in the United States, affecting between 1 and 3 million people per year and increasing at a rate of 3% to 8% per year. Other types (e.g., T-cell lymphoma, Merkel cell tumor, basosquamous carcinoma, Kaposi sarcoma) are much less common. The primary risk factor for nonmelanoma skin cancer is sun exposure, with additional risk factors such as toxic exposures, other ionizing radiation exposure, and immunosuppression playing smaller roles. Although these cancers are rarely fatal, they can impact quality of life, functional status, and physical appearance.

Treatment

In general, the most effective treatment for nonmelanoma skin cancer is surgical. If surgery is not feasible or preferred, cryosurgery, topical therapy, or radiotherapy can be considered, though the cure rate may be lower. When considering the most appropriate treatment strategy, recurrence rate, preservation of function, patient expectations, and potential adverse events should be considered.

Surgical

The choice of surgical procedure depends on the histologic type and size and location of the lesion. Patient preferences can also play a factor in surgical decisions due to cosmetic reasons—as well as the consideration of comorbidities and patient risk factors, such as anticoagulation. Local excisional procedures, such as

electrodessication and curettage or cryotherapy, can be used for low-risk lesions, while surgical excision is indicated for lesions that are not low risk. Mohs surgery is a type of excisional procedure that uses microscopic guidance to achieve greater precision and sparing of normal tissue. In patients who meet criteria for Mohs surgery, 5-year cure rates for basal cell cancer range from 98% to 99%, making Mohs surgery the preferred procedure for those who qualify.

Radiotherapy

Radiotherapy is indicated for certain nonmelanoma skin cancers not amenable to surgery. In some cases, this is due to the location of the lesion on the eyelid, nose, or other structures that make surgery more difficult and which may be expected to have a less desirable cosmetic outcome. In other cases, surgery may be relatively contraindicated due to clinical factors such as bleeding risk or advanced age. In elderly patients with a relatively large tumor that would require extensive excision, the benefit/risk ratio for radiotherapy may be considered favorable. The 5-year control rates for radiotherapy are range from 80% to 92%, which is lower than that of surgical excision. A 1997 randomized controlled trial reported that radiotherapy for basal cell carcinoma resulted in greater numbers of persistent and recurrent lesions compared with surgical excision.

When radiotherapy is used for nonmelanoma skin cancer, the primary modality is external beam radiation. A number of different brachytherapy techniques have also been developed, including low-dose rate systems, iridium-based systems, and high-dose rate (HDR) systems.

Electronic Brachytherapy

Electronic brachytherapy is a form of radiotherapy delivered locally, using a miniaturized electronic x-ray source rather than a radionuclide-based source. A pliable mold is constructed of silicone or polymethyl-methacrylate and fitted to the tumor surface. This mold allows treatment to be delivered to nonflat surfaces such as the nose or ear. A radioactive source is then inserted into the mold to deliver a uniform radiation dosage directly to the lesion. Multiple treatment sessions within a short time period (typically within a month) are required.

This technique is feasible for well-circumscribed, superficial tumors because it focuses a uniform dose of X-ray source radiation on the lesion with the aid of a shielded surface application. Advantages of this treatment modality compared with standard radiotherapy include a shorter treatment schedule, avoidance of a surgical procedure and hospital stay, less severe side effects because the focused radiation spares healthy tissue and organs, and the avoidance of radioisotopes.

For individuals who have nonmelanoma skin cancer who receive electronic brachytherapy, the evidence is insufficient to determine the effects of the technology on health outcomes. Therefore, the service is considered not medically necessary.

CODING

Commercial Products

The following CPT code is considered not medically necessary when filed with the ICD-10 diagnosis codes below.

0394T High dose rate electronic brachytherapy, skin surface application, per fraction, includes basic dosimetry, when performed

ICD-10 Diagnosis Code Range C44.00 - C44.99

RELATED POLICIES

BlueCHiP for Medicare National and Local Coverage Determinations
New Technology

PUBLISHED

Provider Update, December 2019

Provider Update, November/December 2018

Provider Update, December 2017

Provider Update, October 2016

REFERENCES

1. Centers for Medicare and Medicaid Services (CMS). Local Coverage Determination (LCD): Category III CPT® Codes (L33392)
2. Bhatnagar A. Nonmelanoma skin cancer treated with electronic brachytherapy: results at 1 year. *Brachytherapy*. Mar-Apr 2013;12(2):134-140. PMID 23312675
3. Madan V, Lear JT, Szeimies RM. Non-melanoma skin cancer. *Lancet*. Feb 20 2010;375(9715):673-685. PMID 20171403
4. American Academy of Dermatology (AAD). Guidelines of care for the management of basal cell carcinoma. *J Am Acad Dermatol*. Mar 2018;78(3):540-559. PMID 29331385
5. Alam M, Nanda S, Mittal BB, Kim NA, Yoo S. The use of brachytherapy in the treatment of nonmelanoma skin cancer: a review. *J Am Acad Dermatol*. Aug 2011;65(2):377-388. PMID 21496952
6. Avril MF, Auperin A, Margulis A, et al. Basal cell carcinoma of the face: surgery or radiotherapy? Results of a randomized study. *Br J Cancer*. 1997;76(1):100-106. PMID 9218740
7. Delishaj D, Rembielak A, Manfredi B, et al. Non-melanoma skin cancer treated with high-dose-rate brachytherapy: a review of literature. *J Contemp Brachytherapy*. Dec 2016;8(6):533-540. PMID 28115960
8. Paravati AJ, Hawkins PG, Martin AN, et al. Clinical and cosmetic outcomes in patients treated with high-doserate electronic brachytherapy for nonmelanoma skin cancer. *Pract Radiat Oncol*. Nov-Dec 2015;5(6):e659-664. PMID 26432680
9. Delishaj D, Laliscia C, Manfredi B, et al. Non-melanoma skin cancer treated with high-dose-rate brachytherapy and Valencia applicator in elderly patients: a retrospective case series. *J Contemp Brachytherapy*. Dec 2015;7(6):437-444. PMID 26816500
10. Tormo A, Celada F, Rodriguez S, et al. Non-melanoma skin cancer treated with HDR Valencia applicator: clinical outcomes. *J Contemp Brachytherapy*. Jun 2014;6(2):167-172. PMID 25097557
11. Bhatnagar A, Loper A. The initial experience of electronic brachytherapy for the treatment of non-melanoma skin cancer. *Radiat Oncol*. Sep 28 2010;5:87. PMID 20875139
12. Gauden R, Pracy M, Avery AM, Hodgetts I, Gauden S. HDR brachytherapy for superficial non-melanoma skin cancers. *J Med Imaging Radiat Oncol*. Apr 2013;57(2):212-217. PMID 23551783
13. Guix B, Finestres F, Tello J, et al. Treatment of skin carcinomas of the face by high-dose-rate brachytherapy and custom-made surface molds. *Int J Radiat Oncol Biol Phys*. Apr 1 2000;47(1):95-102. PMID 10758310
14. National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Basal Cell Skin Cancer. Version 1.2018. https://www.nccn.org/professionals/physician_gls/pdf/nmsc.pdf. Accessed May 29, 2018.
15. National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Squamous Cell Skin Cancer. Version 2.2018. Accessed May 29, 2018. https://www.nccn.org/professionals/physician_gls/pdf/squamous.pdf.
16. American Academy of Dermatology (AAD). Guidelines of care for the management of cutaneous squamous cell carcinoma. *J Am Acad Dermatol*. Mar 2018;78(3):560-578. PMID 29331386

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