



*National Imaging Associates, Inc.	
Clinical guidelines HEAD AND NECK CANCER	Original Date: June 2013
Radiation Oncology	Last Revised Date: May 2023
Guideline Number: NIA_CG_131	Implementation Date: January 2024

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.*
- *Where a specific clinical indication is not directly addressed in this guideline, medical necessity determination will be made based on widely accepted standard of care criteria. These criteria are supported by evidence-based or peer-reviewed sources such as medical literature, societal guidelines and state/national recommendations.*

INDICATIONS FOR RADIATION THERAPY

2D, 3D, IMRT and Brachytherapy techniques may be used as appropriate, depending on the tumor location and stage of disease. ¹ Brachytherapy, where appropriate, may be utilized as a boost for 2D, 3D or IMRT courses of radiation therapy.

- Pre-operative radiation therapy
 - 2D/3D/IMRT – up to 35 fractions
- Definitive radiation therapy with or without concurrent chemotherapy
 - 2D/3D/IMRT – up to 42 fractions
 - Hyperfractionation - 81.6 Gy, 1.2 Gy per fraction BID (up to 68 fractions)
 - GRID radiation therapy uses a special block which turns a conventional radiation photon beam into multiple pencil beams. By using this block all the surrounding tissues would be blocked and radiation would be delivered to the GTV/tumor only. This block enables radiation oncologists to deliver high doses of radiation therapy (equivalent to SBRT doses) in one fraction. These treatments would be delivered sequentially, therefore, the total number of fractions. The only technique that would not be approvable would be SBRT because SBRT cannot be combined with any other form of radiation therapy.

- Post-operative radiation therapy (up to 40 fractions)
 - Presence of adverse factors
 - Oral cavity – T1-2, N0 with one positive node without adverse features
 - pT3 or pT4 primary tumors
 - N2-3
 - Perineural invasion
 - Vascular tumor embolism
 - Extracapsular spread
 - Positive surgical margin
- Palliative radiation therapy if symptomatic up to 20 fractions

P16+ Oropharyngeal Cancer

Due to better prognosis, staging of these cancers is different from P16-negative ones (16). De-escalation studies support less intensive treatments including lower doses of radiation therapy.

TREATMENT OPTIONS REQUIRING TO BE REVIEWED ON A CASE-BY-CASE BASIS PHYSICIAN REVIEW

Stereotactic Body Radiation Therapy (SBRT)

Stereotactic Body Radiation Therapy is not a standard treatment option for the treatment of head and neck cancer. SBRT may be indicated for reirradiation.¹

Proton Beam Radiation Therapy²

Proton beam is not a standard treatment option for head and neck cancer and should not be used routinely. Medical necessity will be determined on a case-by-case basis.

- Re-irradiation up to 34 fractions may be indicated if no metastatic disease present
- Advanced (e.g., T4) and/or unresectable head and neck cancers³⁻¹⁴
- Cancers of the paranasal sinuses and other accessory sinuses

BACKGROUND

According to the American Society of Clinical Oncology, about 4% of all cancers in the United States occur in the head and neck. The majority of these tumors are squamous cell carcinoma, with human papilloma virus infection, tobacco and alcohol use regarded as risk factors.¹⁵ Due to the complexity of tumors arising from the head and neck region, it is not unusual for management to include an initial evaluation and development of a plan by a multidisciplinary team, including surgery, radiotherapy, medical oncology, and dental. Although single modality treatment with either surgery or radiotherapy is not uncommon with patients with early stage disease, combined modality therapy is appropriate for the majority of patients with locally or regionally advanced stage of disease.¹ The primary sites for head and neck tumors include paranasal sinuses, the lip, oral cavity, salivary glands, oropharynx, hypopharynx, glottic larynx, supraglottic larynx, nasopharynx, and occult head and neck primary sites.

This guideline outlines several methods suitable for delivering radiation therapy to the head and neck area. Various radiotherapy techniques may be used as appropriate, depending on the stage, location, and expertise of the radiation oncologist.¹ Multidisciplinary management is recommended to best achieve tumor control while reducing toxicity.¹⁵ These are generally accepted practice guidelines, however, and cannot incorporate all possible clinical variations. Thus, they are not intended to replace good clinical judgment or individualization of treatments.

IMRT, 3D, 2D, and brachytherapy techniques may be used as appropriate, depending on the tumor location, stage of disease, and experience/availability of dosimetry/medical physics support.¹ Intensity modulated radiation therapy (IMRT) has been shown to be useful in reducing long-term side effects in oropharyngeal, paranasal sinus, and nasopharyngeal cancers by reducing dose to normal surrounding tissue, including the salivary gland and brain (including temporal lobes, auditory apparatus, and optic structures). The application of IMRT to other sites of the head and neck is evolving with the recommendation to use at the discretion of the treating physicians. IMRT can be delivered with various dose fractionation schemes, including simultaneous integrated boost, sequential boost, and concomitant accelerated boost. IMRT has been shown to be beneficial in treating certain head and neck cancers by reducing dose to the salivary glands, brain, auditory apparatus, and optic structures. Low dose or high dose brachytherapy may be appropriate in certain cases.

REFERENCES

1. NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines): Head and Neck Cancers Version 1.2023. National Comprehensive Cancer Network (NCCN). Updated December 20, 2022. Accessed January 9, 2023. https://www.nccn.org/professionals/physician_gls/pdf/head-and-neck.pdf
2. American Society for Radiation Oncology. Model Policies: Proton Beam Therapy. Updated June 2017. Accessed December 2, 2022. https://www.astro.org/uploadedFiles/_MAIN_SITE/Daily_Practice/Reimbursement/Model_Policies/Content_Pieces/ASTROPBTModelPolicy.pdf
3. Holliday EB, Garden AS, Rosenthal DI, et al. Proton therapy reduces treatment-related toxicities for patients with nasopharyngeal cancer: a case-match control study of intensity-modulated proton therapy and intensity-modulated photon therapy. *International journal of particle therapy*. 2015;2(1):19-28.
4. Russo AL, Adams JA, Weyman EA, et al. Long-Term Outcomes After Proton Beam Therapy for Sinonasal Squamous Cell Carcinoma. *Int J Radiat Oncol Biol Phys*. May 1 2016;95(1):368-376. doi:10.1016/j.ijrobp.2016.02.042
5. McDonald MW, Liu Y, Moore MG, Johnstone PA. Acute toxicity in comprehensive head and neck radiation for nasopharynx and paranasal sinus cancers: cohort comparison of 3D conformal proton therapy and intensity modulated radiation therapy. *Radiat Oncol*. Feb 27 2016;11:32. doi:10.1186/s13014-016-0600-3
6. Holliday EB, Frank SJ. Proton therapy for nasopharyngeal carcinoma. *Chin Clin Oncol*. Apr 2016;5(2):25. doi:10.21037/cco.2016.03.05
7. Dagan R, Bryant C, Li Z, et al. Outcomes of Sinonasal Cancer Treated With Proton Therapy. *Int J Radiat Oncol Biol Phys*. May 1 2016;95(1):377-385. doi:10.1016/j.ijrobp.2016.02.019
8. Simone CB, 2nd, Ly D, Dan TD, et al. Comparison of intensity-modulated radiotherapy, adaptive radiotherapy, proton radiotherapy, and adaptive proton radiotherapy for treatment of locally advanced head and neck cancer. *Radiother Oncol*. Dec 2011;101(3):376-82. doi:10.1016/j.radonc.2011.05.028
9. van de Water TA, Bijl HP, Schilstra C, Pijls-Johannesma M, Langendijk JA. The potential benefit of radiotherapy with protons in head and neck cancer with respect to normal tissue sparing: a systematic review of literature. *Oncologist*. 2011;16(3):366-77. doi:10.1634/theoncologist.2010-0171
10. van der Laan HP, van de Water TA, van Herpt HE, et al. The potential of intensity-modulated proton radiotherapy to reduce swallowing dysfunction in the treatment of head and neck cancer: A planning comparative study. *Acta Oncol*. Apr 2013;52(3):561-9. doi:10.3109/0284186x.2012.692885
11. Widesott L, Pierelli A, Fiorino C, et al. Intensity-modulated proton therapy versus helical tomotherapy in nasopharynx cancer: planning comparison and NTCP evaluation. *Int J Radiat Oncol Biol Phys*. Oct 1 2008;72(2):589-96. doi:10.1016/j.ijrobp.2008.05.065
12. Kandula S, Zhu X, Garden AS, et al. Spot-scanning beam proton therapy vs intensity-modulated radiation therapy for ipsilateral head and neck malignancies: a treatment planning comparison. *Med Dosim*. Winter 2013;38(4):390-4. doi:10.1016/j.meddos.2013.05.001

13. Jakobi A, Stützer K, Bandurska-Luque A, et al. NTCP reduction for advanced head and neck cancer patients using proton therapy for complete or sequential boost treatment versus photon therapy. *Acta Oncol.* 2015;54(9):1658-64. doi:10.3109/0284186x.2015.1071920
14. van de Water TA, Lomax AJ, Bijl HP, et al. Potential benefits of scanned intensity-modulated proton therapy versus advanced photon therapy with regard to sparing of the salivary glands in oropharyngeal cancer. *Int J Radiat Oncol Biol Phys.* Mar 15 2011;79(4):1216-24. doi:10.1016/j.ijrobp.2010.05.012
15. American Society of Clinical Oncology. Head and Neck Cancer: Statistics. American Society of Clinical Oncology (ASCO). Updated February 2022. Accessed December 2, 2022. <https://www.cancer.net/cancer-types/head-and-neck-cancer/statistics>

POLICY HISTORY

Date	Summary
May 2023	<p>Added the following under Post-operative Radiation Therapy</p> <ul style="list-style-type: none"> • Oral cavity – T1-2, N0 with one positive node without adverse features <p>Added the following:</p> <ul style="list-style-type: none"> • P16+ Oropharyngeal Cancer Due to better prognosis, staging of these cancers is different from P16-negative ones (16). De-escalation studies support less intensive treatments including lower doses of radiation therapy. • Added the following to Definitive radiation therapy: GRID radiation therapy uses a special block which turns a conventional radiation photon beam into multiple pencil beams. By using this block all the surrounding tissues would be blocked and radiation would be delivered to the GTV/tumor only. This block enables radiation oncologists to deliver high doses of radiation therapy (equivalent to SBRT doses) in one fraction. These treatments would be delivered sequentially, therefore, the total number of fractions. The only technique that would not be approvable would be SBRT because SBRT cannot be combined with any other form of radiation therapy • Deleted Additional Resources • Removed “physician review” language
January 2022	<p>Add the following under Proton Beam Radiation Therapy:</p> <ul style="list-style-type: none"> • Re-irradiation up to 34 fractions may be indicated if no metastatic disease present • Advanced (e.g., T4) and/or unresectable head and neck cancers • Cancers of the paranasal sinuses and other accessory sinuses



Reviewed / Approved by NIA Clinical Guideline Committee

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