



## References

1. American Cancer Society. Key statistics for nasopharyngeal cancer. Published 2024. Accessed August 9, 2024. <https://www.cancer.org/cancer/types/nasopharyngeal-cancer/about/key-statistics.html>
2. Zhang Y, Rungay H, Li M, Cao S, Chen W. Nasopharyngeal cancer incidence and mortality in 185 countries in 2020 and the projected burden in 2040: Population-based global epidemiological profiling. *JMIR Public Health Surveill.* 2023;9(1):e49968. doi:10.2196/49968
3. Juarez-Vignon Whaley JJ, Afkhami M, Sampath S, Amini A, Bell D, Villaflor VM. Early stage and locally advanced nasopharyngeal carcinoma treatment from present to future: Where are we and where are we going? *Curr Treat Options Oncol.* 2023;24(7):845-866. doi:10.1007/s11864-023-01083-2
4. Su ZY, Siak PY, Leong CO, Cheah SC. The role of Epstein-Barr virus in nasopharyngeal carcinoma. *Front Microbiol.* 2023;14:1116143. doi:10.3389/fmicb.2023.1116143
5. Juarez-Vignon Whaley JJ, Afkhami M, Onyshchenko M, et al. Recurrent/Metastatic nasopharyngeal carcinoma treatment from present to future: Where are we and where are we heading? *Curr Treat Options Oncol.* 2023;24(9):1138-1166. doi:10.1007/s11864-023-01101-3
6. Chen SY, Duan XT, Li HF, et al. Efficacy of sequential chemoradiotherapy combined with toripalimab in de novo metastatic nasopharyngeal carcinoma: A phase II trial. *Cell Rep Med.* 2023;4(11):101279. doi:10.1016/j.xcrm.2023.101279
7. American Cancer Society. Survival rates for nasopharyngeal cancer. Published 2024. Accessed August 9, 2024. <https://www.cancer.org/cancer/types/nasopharyngeal-cancer/detection-diagnosis-staging/survival-rates.html>
8. Jiromaru R, Nakagawa T, Yasumatsu R. Advanced nasopharyngeal carcinoma: Current and emerging treatment options. *Cancer Manag Res.* 2022;14:2681-2689. doi:10.2147/CMAR.S341472
9. Peng Z, Wang Y, Fan R, et al. Treatment of recurrent nasopharyngeal carcinoma: A sequential challenge. *Cancers.* 2022;14(17):4111. doi:10.3390/cancers14174111
10. Perri F, Della Vittoria Scarpati G, Caponigro F, et al. Management of recurrent nasopharyngeal carcinoma: current perspectives. *OncoTargets Ther.* 2019;12:1583-1591. doi:10.2147/OTT.S188148
11. Zheng SH, Liu SR, Wang HB, et al. Treatment and survival outcomes associated with platinum plus low-dose, long-term fluorouracil for metastatic nasopharyngeal carcinoma. *JAMA Netw Open.* 2021;4(12):e2138444. doi:10.1001/jamanetworkopen.2021.38444
12. Fuereder T. Nasopharyngeal carcinoma. *Memo - Mag Eur Med Oncol.* 2023;16(3):165-169. doi:10.1007/s12254-023-00903-3
13. Pfister, David G., Spencer, Sharon, Adkins, Douglas. NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines). Head and Neck Cancer, Version 4.2024. Accessed August 12, 2024. [https://www.nccn.org/professionals/physician\\_gls/pdf/head-and-neck.pdf](https://www.nccn.org/professionals/physician_gls/pdf/head-and-neck.pdf). Published online May 1, 2024.
14. Zhang L, Huang Y, Hong S, et al. Gemcitabine plus cisplatin versus fluorouracil plus cisplatin in recurrent or metastatic nasopharyngeal carcinoma: a multicentre, randomised, open-label, phase 3 trial. *Lancet.* 2016;388(10054):1883-1892. doi:10.1016/S0140-6736(16)31388-5
15. Bossi P, Gurizzan C, Chan A. Immunotherapy for nasopharyngeal carcinoma: The earlier the better. *JAMA.* 2023;330(20):1954-1955. doi:10.1001/jama.2023.22465
16. National Cancer Institute. Immune checkpoint inhibitors. Published September 24, 2019. Accessed August 12, 2024. <https://www.cancer.gov/about-cancer/treatment/types/immunotherapy/checkpoint-inhibitors>
17. Rajasekaran N, Wang X, Ravindranathan S, et al. Toripalimab, a therapeutic monoclonal anti-PD-1 antibody with high binding affinity to PD-1 and enhanced potency to activate human T cells. *Cancer Immunol Immunother CII.* 2024;73(3):60. doi:10.1007/s00262-024-03635-3



18. Ben-Ari E. FDA approves toripalimab for advanced nasopharyngeal cancer. Published January 3, 2024. Accessed February 9, 2024. <https://www.cancer.gov/news-events/cancer-currents-blog/2024/fda-toripalimab-nasopharyngeal-cancer>
19. Mai HQ, Chen QY, Chen D, et al. Toripalimab plus chemotherapy for recurrent or metastatic nasopharyngeal carcinoma: The JUPITER-02 randomized clinical trial. *JAMA*. 2023;330(20):1961-1970. doi:10.1001/jama.2023.20181
20. Yang Y, Qu S, Li J, et al. Camrelizumab versus placebo in combination with gemcitabine and cisplatin as first-line treatment for recurrent or metastatic nasopharyngeal carcinoma (CAPTAIN-1st): a multicentre, randomised, double-blind, phase 3 trial. *Lancet Oncol*. 2021;22(8):1162-1174. doi:10.1016/S1470-2045(21)00302-8
21. Yang Y, Pan J, Wang H, et al. Tislelizumab plus chemotherapy as first-line treatment for recurrent or metastatic nasopharyngeal cancer: A multicenter phase 3 trial (RATIONALE-309). *Cancer Cell*. 2023;41(6):1061-1072.e4. doi:10.1016/j.ccr.2023.04.014
22. BeiGene. China NMPA approves tislelizumab for recurrent or metastatic nasopharyngeal cancer. Published June 10, 2022. Accessed February 10, 2024. <https://ir.beigene.com/news/china-nmpa-approves-tislelizumab-for-recurrent-or-metastatic-nasopharyngeal-cancer/9900f4cd-c07c-4048-a1ad-0b62f0897c39/>
23. U.S. Food & Drug Administration. FDA approves toripalimab-tpzi for nasopharyngeal carcinoma. Published October 30, 2023. Accessed February 9, 2024. <https://www.fda.gov/drugs/resources-information-approved-drugs/fda-approves-toripalimab-tpzi-nasopharyngeal-carcinoma>
24. Wang FH, Wei XL, Feng J, et al. Efficacy, safety, and correlative biomarkers of toripalimab in previously treated recurrent or metastatic nasopharyngeal carcinoma: A phase II clinical trial (POLARIS-02). *J Clin Oncol*. 2021;39(7):704-712. doi:10.1200/JCO.20.02712
25. Hsu C, Lee SH, Ejadi S, et al. Safety and antitumor activity of pembrolizumab in patients with programmed death-ligand 1-positive nasopharyngeal carcinoma: Results of the KEYNOTE-028 study. *J Clin Oncol*. 2017;35(36):4050-4056. doi:10.1200/JCO.2017.73.3675
26. Delord JP, Hollebecque A, De Boer JP, et al. An open-label, multicohort, phase I/II study to evaluate nivolumab in patients with virus-associated tumors (CheckMate 358): Efficacy and safety in recurrent or metastatic (R/M) nasopharyngeal carcinoma (NPC). *J Clin Oncol*. 2017;35:6025-6025. doi:10.1200/JCO.2017.35.15\_suppl.6025
27. Ma BBY, Lim WT, Goh BC, et al. Antitumor activity of nivolumab in recurrent and metastatic nasopharyngeal carcinoma: An international, multicenter study of the Mayo Clinic Phase 2 Consortium (NCI-9742). *J Clin Oncol*. 2018;36(14):1412-1418. doi:10.1200/JCO.2017.77.0388
28. Chan ATC, Lee VHF, Hong RL, et al. Pembrolizumab monotherapy versus chemotherapy in platinum-pretreated, recurrent or metastatic nasopharyngeal cancer (KEYNOTE-122): an open-label, randomized, phase III trial. *Ann Oncol*. 2023;34(3):251-261. doi:10.1016/j.annonc.2022.12.007
29. Qian X, Chen H, Tao Y. Biomarkers predicting clinical outcomes in nasopharyngeal cancer patients receiving immune checkpoint inhibitors: A systematic review and meta-analysis. *Front Immunol*. 2023;14:1146898. doi:10.3389/fimmu.2023.1146898
30. Alami IE, Gihbid A, Charoute H, et al. Prognostic value of Epstein-Barr virus DNA load in nasopharyngeal carcinoma: a meta-analysis. *Pan Afr Med J*. 2022;41:6. doi:10.11604/pamj.2022.41.6.28946
31. Marabelle A, Fakih M, Lopez J, et al. Association of tumour mutational burden with outcomes in patients with advanced solid tumours treated with pembrolizumab: prospective biomarker analysis of the multicohort, open-label, phase 2 KEYNOTE-158 study. *Lancet Oncol*. 2020;21(10):1353-1365. doi:10.1016/S1470-2045(20)30445-9



## ADVANCES IN RECURRENT / METASTATIC NASOPHARYNGEAL CARCINOMA: IMMUNOTHERAPY AND BIOMARKERS

32. Hu C, Ou X. Response-adapted therapy for locally advanced nasopharyngeal carcinoma based on clinical response and circulating Epstein-Barr virus DNA level post induction chemotherapy. *J Clin Oncol.* 2023;41(16 suppl):TPS6112. doi:10.1200/JCO.2023.41.16\_suppl.TPS6112
33. Thompson JA, Schneider BJ, Brahmer J, et al. NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines). Management of Immunotherapy-Related Toxicities. Version 1.2024. Published December 7, 2023. Accessed February 12, 2024. [https://www.nccn.org/professionals/physician\\_gls/pdf/immunotherapy.pdf](https://www.nccn.org/professionals/physician_gls/pdf/immunotherapy.pdf)
34. Schneider BJ, Naidoo J, Santomasso BD, et al. Management of Immune-Related Adverse Events in Patients Treated With Immune Checkpoint Inhibitor Therapy: ASCO Guideline Update. *J Clin Oncol.* 2021;39(36):4073-4126. doi:10.1200/JCO.21.01440
35. Wang PF, Chen Y, Song SY, et al. Immune-related adverse events associated with anti-PD-1/PD-L1 treatment for malignancies: A meta-analysis. *Front Pharmacol.* 2017;8:730. doi:10.3389/fphar.2017.00730
36. Xu JY, Wei XL, Wang YQ, Wang FH. Current status and advances of immunotherapy in nasopharyngeal carcinoma. *Ther Adv Med Oncol.* 2022;14:17588359221096214. doi:10.1177/17588359221096214
37. Londoño MC, Reig M. Multidisciplinary clinical approach to cancer patients with immune-related adverse events induced by checkpoint inhibitors. *Cancers.* 2020;12(11):3446. doi:10.3390/cancers12113446
38. Naidoo J, Zhang J, Lipson EJ, et al. A multidisciplinary toxicity team for cancer immunotherapy-related adverse events. *J Natl Compr Cancer Netw.* 2019;17(6):712-720. doi:10.6004/jnccn.2018.7268