



The Annenberg Academy for Team-Based Care

Interprofessional Care of Patients with Nasopharyngeal Cancer

MANAGING PATIENTS WITH NASOPHARYNGEAL CANCER: KEY CONCEPTS

The management of patients with nasopharyngeal cancer (NPC) has evolved dramatically in recent years due to greater understanding of the pathobiology and identification of mutations. Therapies targeting these mutations have been developed and are increasingly being integrated into treatment due to their ability to extend overall survival and improve quality of life. Key concepts to keep in mind when managing patients with NPC are:

- Addition of immunotherapy to first-line cisplatin/gemcitabine in patients with recurrent/metastatic NPC significantly improves progression-free survival.¹
- Toripalimab is the first and only PD-1 inhibitor approved in combination with gemcitabine and cisplatin for the first-line treatment of adults with metastatic or recurrent, locally advanced NPC, as well as monotherapy for adults with recurrent unresectable or metastatic NPC with disease progression on or after platinum-containing chemotherapy.
- Substitution of other PD-1 inhibitors (nivolumab, pembrolizumab) for toripalimab can be considered, although the evidence for use of these agents with chemotherapy is not as strong as with toripalimab.²⁻⁴
- Higher Epstein Barr Virus DNA levels at diagnosis and at the end of treatment are associated with significantly poorer outcomes, including increased mortality and distant metastases; however, there are currently no standardized testing recommendations.⁵
- There is currently no clear role for human papillomavirus, PD-L1, or tumor mutational burden testing in patients with NPC.
- Toripalimab does not increase the risk of overall adverse events (AEs) or grade ≥ 3 AEs when added to chemotherapy; however, rates of immune-related AEs (irAEs) such as hypothyroidism are higher.^{1,6}
- The management of patients who experience an irAE includes temporary or permanent discontinuation of the PD-1 inhibitor and initiation of corticosteroids or other immunosuppressive therapy.⁷ Interprofessional, multidisciplinary management of irAEs can aid in early detection and optimal treatment of irAEs.^{8,9}

INTERPROFESSIONAL COLLABORATION PRINCIPLES

For the evolution in treatment to be of optimal benefit to patients, comprehensive strategies for choosing, delivering, monitoring, and modifying therapy have become especially important. As a consequence, care is typically provided by an interprofessional, multidisciplinary care team that extends beyond physicians to include nurses, nurse practitioners, pharmacists, physician associates, social workers, and others, often involving collaboration between providers in community and academic settings.

To that end, the following reflects a conversation among 3 healthcare professionals about interprofessional care and how collaborative practices and teams can strengthen our health systems.

Christopher Flores, MD: In medical school, I was taught that the patient-doctor relationship was the most critical and important dynamic in healthcare. But after 30-plus years in clinical care, I can attest that healthcare is a team sport and we deliver care in teams of individuals with different training, different skills, different talents. And we teach each other, we learn from each other, we brainstorm and solve problems to meet the needs of the patient.

I want to make a point that interprofessional refers to clinicians in different professions, such as nurses, nurse practitioners, pharmacists, physicians, and physician associates. Multidisciplinary refers to clinicians in different specialties or sub-specialties, such as cardiology, dermatology, and oncology. LaTosha, do you want to talk about interprofessional collaboration?

LaTosha Mollette, DNP: The World Health Organization defines interprofessional collaboration as when multiple healthcare workers from various backgrounds work together with patients, families, and communities to provide the best healthcare possible.¹⁰ This is exactly what teamwork should look like, but it is important to remember that healthcare teams can vary from patient to patient.

I work in a rural setting, working together with various healthcare professionals to improve access to needed healthcare services, which helps to prevent unnecessary delays in care and treatment. Ultimately, working together as a team helps to meet the needs of others to improve health outcomes, patient care, and safety.



The Annenberg Academy for Team-Based Care

Interprofessional Care of Patients with Nasopharyngeal Cancer

Christopher Flores, MD: I think all of us in healthcare are trying to figure out how to do things better, make life easier for ourselves, and make everybody happier, patients, our staff, and ourselves, to make things more sustainable. Interprofessional collaboration can accomplish this. There's a growing body of literature that shows that interprofessional collaboration can improve patient outcomes, acceptance of treatment, and satisfaction.¹¹⁻¹⁴ It can decrease costs, improve efficiency, reduce disparities, improve health equity, and make things more sustainable for providers.^{11,15-22}

The Interprofessional Education Collaborative has identified 4 behavioral competencies for effective interprofessional collaboration: 1) roles and responsibilities; 2) values and ethics; 3) communication; and 4) teams and teamwork.²³ Michael, do you want to talk a little bit about the roles and responsibilities?

Michael Smith, PharmD: Certainly, it's one of these things that we don't often think about, but it's important for 2 reasons. One, understanding our own responsibility and roles that we have within our team and what our teammates can expect from us in terms of what we can deliver to them and deliver to patients.²³ The other is understanding what your team can do for you as well, so that you understand their educational background and you can help them practice at the top of their license by utilizing their skillset to the fullest extent.

It is increasingly common for clinicians, even those within a profession, to take different educational and practice paths leading to clinical practice. As an example, there are various differences in training a pharmacist. Nowadays, all pharmacists graduate with a Doctor of Pharmacy degree (PharmD), but some of us have done 1 or 2 years of residency training or postdoc fellowships. So, getting to know your teammates and what you can expect from them and what they can expect from you can really help your team function at a high level.

Christopher Flores, MD: We talk about values and ethics as well.²³ In medicine, we're constantly required to make very difficult and complicated treatment decisions for our patients. We really are missing a great opportunity if we don't involve the opinions of all the members of our team. What does the nurse think about this plan or what does the social worker who has talked to the family members think about this plan? Or what does the physical therapist think, who has

been working with the patient for the last 3 days? LaTosha, what do you think about communication?

LaTosha Mollette, DNP: Communication is essential in everything we do, and it's how we're able to effectively achieve goals, as well as improve relationships and interactions with others.²³ The healthcare system is often described as being fragmented with little communication and collaboration, but when healthcare professionals communicate responsibly and respectfully, this allows them to overcome differences and work together to accomplish a shared goal, including learning from each other, to better improve patient outcomes and safety.^{16,24-26}

Christopher Flores, MD: We're talking a lot about teams and teamwork. Michael, do you have any other points you want to make about teamwork?

Michael Smith, PharmD: Most of us are members of various teams during the course of a typical day. Think about the team members that you work with to take care of patients, but also think about a team from a networking standpoint. Do you have a network of like colleagues? As an example, other pharmacists in our healthcare system may reach out to me for advice about a patient with pain, whether or not I'm actually seeing the patient. We can make our team small, we can make them big, but we should be making our teams in ways that everybody's functioning at a high level and putting the patient at the center of the team.

Christopher Flores, MD: Michael, LaTosha talked about the fragmented healthcare system and how interprofessional collaboration can help with that. Do you have any examples from your experience?

Michael Smith, PharmD: Think about the patient's experience through our healthcare system. Even if a patient receives all of their healthcare within 1 system, they often have to travel to many different places just to access care. From a primary care clinic to a hospital, to a specialty clinic, to a pharmacy. We can fill these gaps by using our interprofessional framework, our education, and allowing our collaborative practice teammates to step in and fill that.

Christopher Flores, MD: In conclusion, I just want to summarize that medicine is a team sport and that there is a growing body of evidence that supports the various benefits of interprofessional collaboration. LaTosha, Michael, do you have any final thoughts?



The Annenberg Academy for Team-Based Care

Interprofessional Care of Patients with Nasopharyngeal Cancer

LaTosha Mollette, DNP: I think just being willing to change is crucial. I think sometimes we have become complacent in clinical practice, but our healthcare system is ever evolving. So, learning how to be a team player always benefits everyone involved.

Michael Smith, PharmD: I've learned a great deal from my interprofessional colleagues, and I hope that I've helped them learn as well, with the ultimate goal of really improving patient care.

Interprofessional Care for Patients with Cancer

The evolution in treatment provides numerous health benefits to patients with NPC, but has grown more complex. For optimal health benefits, the complexities of patient management are best provided by an interprofessional team that also includes non-physicians such as dietitian, nurse, nurse practitioner, pharmacist, physician associate, social worker, and many others. "Advanced practice providers (APPs) have been and continue to be an integral part of oncology care and a vital component of a successful oncology care team for all types of practice settings," according to the American Society of Clinical Oncology.²⁷

Successful interprofessional patient care requires effective interprofessional (continuing) education (IPCE). A systematic review of studies from 2007 to 2017 assessed the impact of IPCE on learner outcomes across a variety of diseases and health settings.²⁸ IPCE occurred when members of 2 or more health professions learned together for the purpose of improving interprofessional collaboration or patient health outcomes. The review found mixed results regarding changes in the understanding and knowledge of roles and responsibilities of other healthcare professionals, but found that IPCE was effective:

- Improving attitudes towards other healthcare professionals
- Increasing the value placed on a team-based approach for improving patient care
- Changing collaborative behavior

A scoping review of studies from 2015 to 2020 across diseases and health settings assessed the impact of IPCE on the delivery of effective patient care.²⁹ A positive relationship was observed between IPCE and 5 of the ten Centers for Medicare & Medicaid Services quality metrics:

- Length of stay
- Medical errors
- Patient satisfaction
- Patient or caregiver education
- Mortality

Two more recent reviews focused on the impact of IPCE on interprofessional collaboration within cancer care.^{30,31} In one, a systematic review of 7 studies that utilized various educational interventions showed that IPCE significantly improved:

- Collaborative practice
- Patient-centered communication
- Team dynamics
- Mutual respect
- Understanding of each profession's role

Many of the improvements among the interprofessional care team led to improvements in patient-centered care. However, the benefits for patients in terms of increased satisfaction, improved quality of life, and better treatment adherence could not be assessed.

Outside of the patient care setting, interprofessional teams often collaborate to develop standards, guidelines, and other recommendations. One example is the Practice Guidelines Implementation Network (PGIN) of the American Society of Clinical Oncology (ASCO).³² In addition to physicians of various oncologic sub-specialties, the committee is composed of oncology nurses, hematology/oncology pharmacists, and oncology practice managers. A key responsibility of PGIN committee members is to provide input on the ability to implement guideline recommendations developed by ASCO. Another example is the American Hospital Formulary Services Oncology Expert Committee.³³ Composed of oncology nurses, pharmacists, and physicians, committee members collaborate to conduct quarterly systematic reviews for consideration of off-label use for oncology medications approved by the US Food and Drug Administration.



The Annenberg Academy for Team-Based Care

Interprofessional Care of Patients with Nasopharyngeal Cancer

Case example #1

Leaders in an outpatient oncology infusion center identified that patient and nursing staff satisfaction was problematic due to long wait times for medications to be available for administration.³⁴ An interprofessional team of pharmacists, pharmacy technicians, nurses, nurse managers, and advanced practice nurses met. They identified that there was a communication problem beginning with intake patient information, resulting in uncertainty in the anticipated time the medication would be prepared and subsequent notification that medication preparation had been completed. The interprofessional team developed a computer application to compile a patient's height, weight, and chair number in the infusion center, as well as any important comment from nursing. The revised process required a nurse to input the intake information into the computer system, which was sent to the pharmacy for review and preparation of the medication. When needed, pharmacists and pharmacy technicians conferred with nurses regarding the status of specific medications, thereby allowing nurses to set realistic expectations with patients

and schedule patient visit times appropriately. A video monitor was also installed in the nursing station that allowed nurses to monitor the status of medication preparation. The new system improved communication, efficiency, and patient and nursing staff satisfaction.

Case example #2

Team huddles are an important part of providing patient-centric care, but doing so in person can be challenging for institutions with a wide geographic footprint. Recognizing this, one institution that provided care to patients with cancer at several clinic sites developed a multi-channel platform to facilitate communication among the care team.³⁵ Each clinic had its own channel which team members could access anywhere. Providers could share concerns, special patient considerations, room use, and pending tasks. As a result, the interprofessional care teams were able to provide more efficient and patient-centered care without lost time due to travel. In addition to supporting better communications, staff felt more engaged with their teams.

REFERENCES

1. 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
2. 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
3. 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
4. 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
5. 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
6. 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
7. Schneider BJ, Naidoo J, Santomaso 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
8. Naidoo J, Zhang J, Lipson EJ, et al. A multidisciplinary toxicity team for cancer immunotherapy-related adverse events. *J Natl Compr Canc Netw*. 2019;17(6):712-720. doi:10.6004/jnccn.2018.7268
9. Londoño MC, Reig M. Multidisciplinary clinical approach to cancer patients with immune-related adverse events induced by checkpoint inhibitors. *Cancers (Basel)*. 2020;12(11)doi:10.3390/cancers12113446
10. World Health Organization. Framework for Action on Interprofessional Education & Collaborative Practice. Published 2010. Accessed March 6, 2024. https://iris.who.int/bitstream/handle/10665/70185/WHO_HRH_HPN_10.3_eng.pdf?sequence=1



The Annenberg Academy for Team-Based Care

Interprofessional Care of Patients with Nasopharyngeal Cancer

11. Prado P, Norman RS, Vasquez L, et al. An interprofessional skills workshop to teach family caregivers of people living with dementia to provide complex care. *J Interprof Educ Pract.* 2022;26:100481. doi:10.1016/j.xjep.2021.100481
12. Schoeffler A, Bashian EJ, Callender N, et al. Implementation of a COVID-19 vaccine emergency department education program for underserved communities. *Cureus.* 2022;14(11):e30972. doi:10.7759/cureus.30972
13. Stewart-Lynch A, Lombardo S, Ceriani D, Mastrangelo S. Well Child Wednesdays: An interprofessional pilot-program to increase pediatric immunizations Post-COVID. *J Interprof Educ Pract.* 2023;31:100606. doi:10.1016/j.xjep.2023.100606
14. Pariser P, Pham TT, Brown JB, Stewart M, Charles J. Connecting people with multimorbidity to interprofessional teams using telemedicine. *Ann Fam Med.* 2019;17(Suppl 1):S57-S62. doi:10.1370/afm.2379
15. Hammick M, Freeth D, Koppel I, Reeves S, Barr H. A best evidence systematic review of interprofessional education: BEME Guide no. 9. *Med Teach.* 2007;29(8):735-751. doi:10.1080/01421590701682576
16. Reeves S, Fletcher S, Barr H, et al. A BEME systematic review of the effects of interprofessional education: BEME Guide No. 39. *Med Teach.* 2016;38(7):656-668. doi:10.3109/0142159x.2016.1173663
17. White DB, Angus DC, Shields AM, et al. A randomized trial of a family-support intervention in intensive care units. *N Engl J Med.* 2018;378(25):2365-2375. doi:10.1056/NEJMoa1802637
18. Guck TP, Potthoff MR, Walters RW, Doll J, Greene MA, DeFreece T. Improved outcomes associated with interprofessional collaborative practice. *Ann Fam Med.* 2019;17(Suppl 1):S82. doi:10.1370/afm.2428
19. Cahn PS. How interprofessional collaborative practice can help dismantle systemic racism. *J Interprof Care.* 2020;34(4):431-434. doi:10.1080/13561820.2020.1790224
20. White-Williams C, Shirey M, Eagleson R, Clarkson S, Bittner V. An interprofessional collaborative practice can reduce heart failure hospital readmissions and costs in an underserved population. *J Card Fail.* 2021;27(11):1185-1194. doi:10.1016/j.cardfail.2021.04.011
21. Kaiser L, Conrad S, Neugebauer EAM, Pietsch B, Pieper D. Interprofessional collaboration and patient-reported outcomes in inpatient care: a systematic review. *Syst Rev.* 2022;11(1):169. doi:10.1186/s13643-022-02027-x
22. Mäki-Asiala M, Axelin A, Pölkki T. Parents' experiences with interprofessional collaboration in neonatal pain management: A descriptive qualitative study. *J Clin Nurs.* 2023;32(21-22):7860-7872. doi:10.1111/jocn.16857
23. Interprofessional Education Collaborative. IPEC Core Competencies for Interprofessional Collaborative Practice: Version 3. Published November 20, 2023. Accessed September 15, 2025. https://www.ipeccollaborative.org/assets/core-competencies/IPEC_Core_Competencies_Version_3_2023.pdf
24. Millstein LS, Allen J, Bellin MH, et al. An interprofessional training to improve advance care planning skills among medicine, nursing, and social work students. *J Interprof Educ Pract.* 2020;21:100382. doi:10.1016/j.xjep.2020.100382
25. Nicholson L, Ortiz MV, Wang Y, Walsh H, Ottolini MC, Agrawal D. Successful implementation of a novel collaborative interprofessional educational curriculum for nurses and residents in a pediatric acute care setting. *J Interprof Educ Pract.* 2019;17:100284. doi:10.1016/j.xjep.2019.100284
26. Rider EA, Chou C, Abraham C, et al. Longitudinal faculty development to improve interprofessional collaboration and practice: a multisite qualitative study at five US academic health centres. *BMJ Open.* 2023;13(4):e069466. doi:10.1136/bmjopen-2022-069466
27. American Society of Clinical Oncology. Advanced practice provider - Collaborative practice management. Accessed October 3, 2025, <https://www.asco.org/practice-patients/practice-support/staff-well-being-development/advanced-practice-provider>
28. Spaulding EM, Marvel FA, Jacob E, et al. Interprofessional education and collaboration among healthcare students and professionals: a systematic review and call for action. *J Interprof Care.* 2021;35(4):612-621. doi:10.1080/13561820.2019.1697214
29. Cadet T, Cusimano J, McKearney S, et al. Describing the evidence linking interprofessional education interventions to improving the delivery of safe and effective patient care: a scoping review. *J Interprof Care.* 2024;38(3):476-485. doi:10.1080/13561820.2023.2283119
30. Fragner T, Hama H, Šerifović A, Kirchheiner K, Grabovac I. Patient-centered interprofessional education in cancer care: a systematic scoping review. *BMC Med Educ.* 2024;24(1):1552. doi:10.1186/s12909-024-06600-x
31. Sulosaari V, Dodlek N, Brandl A, et al. Interprofessional education in cancer care - a scoping review. *BMC Med Educ.* 2024;24(1):767. doi:10.1186/s12909-024-05669-8



The Annenberg Academy for Team-Based Care

Interprofessional Care of Patients with Nasopharyngeal Cancer

32. American Society of Clinical Oncology. American Society of Clinical Oncology. Committee Description. Practice Guidelines Implementation Network (PGIN). Published 2014. Accessed October 8, 2025. <https://volunteer.asco.org/sites/volunteer.asco.org/files/PGIN.pdf>
33. American Society of Health-System Pharmacists. Off-label Uses. Accessed October 8, 2025, <https://www.ashp.org/products-and-services/ahfs-drug-information/off-label-uses>
34. Tipton J. Interprofessional collaboration helps improve cancer care. Published October 14, 2021. Accessed October 3, 2025. <https://www.ons.org/publications-research/voice/news-views/10-2021/interprofessional-collaboration-helps-improve-cancer>
35. Millman M. Electronic huddles support interprofessional communication in the ambulatory care setting. Published May 1, 2024. Accessed October 3, 2025. <https://www.ons.org/publications-research/voice/news-views/05-2024/electronic-huddles-support-interprofessional>