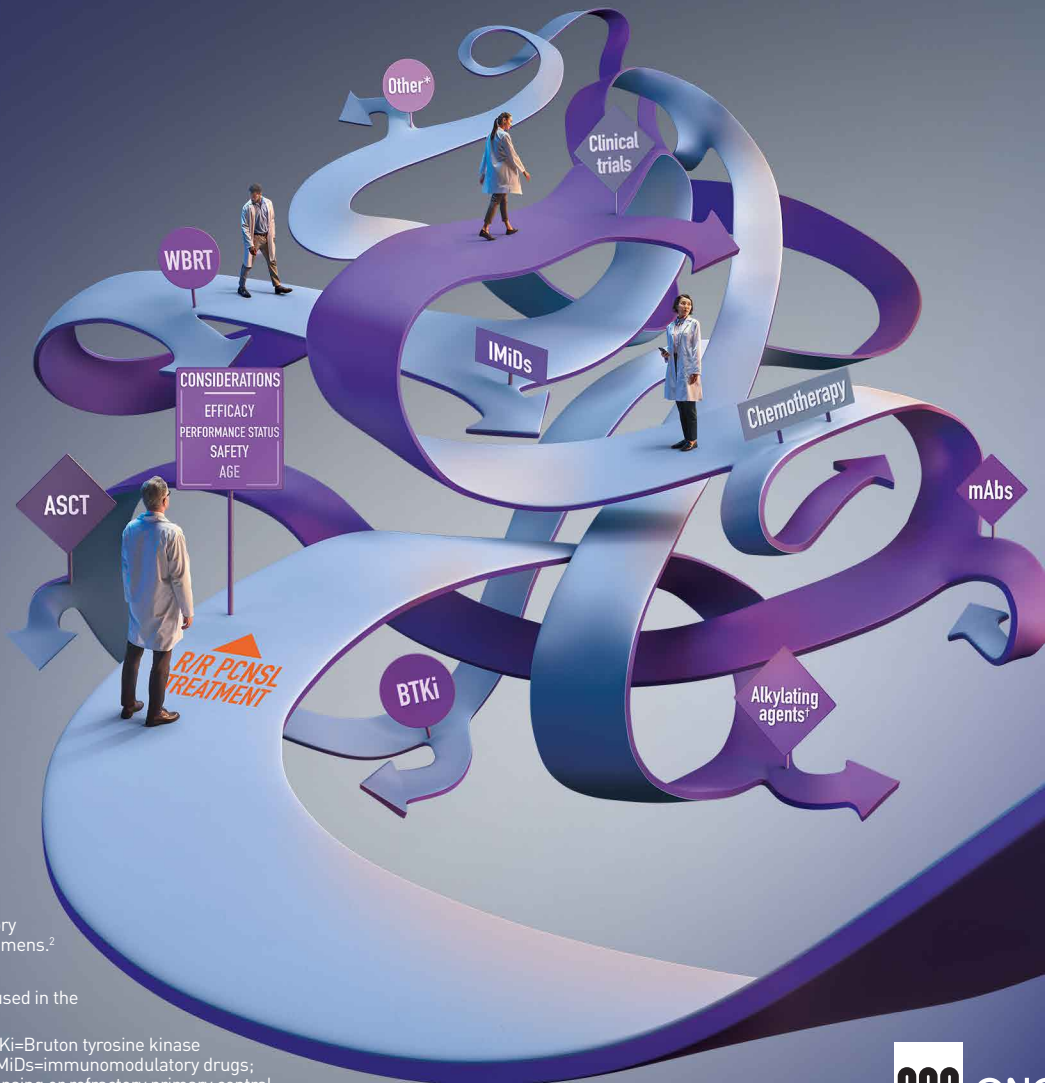


VARIOUS R/R PCNSL
TREATMENT OPTIONS^{1,2}

BUT NO CLEAR CHOICE

Many patients with PCNSL
relapse after first-line
treatment—and there are no
FDA-approved therapies.^{1,2}



*May include targeted agents, immunomodulatory agents, or other monotherapy/combination regimens.²

†Also a type of chemotherapy.

Not all drugs within the presented classes are used in the treatment of R/R PCNSL.

ASCT=autologous stem cell transplantation; BTKi=Bruton tyrosine kinase inhibitor; FDA=Food and Drug Administration; IMiDs=immunomodulatory drugs; mAbs=monoclonal antibodies; R/R PCNSL=relapsing or refractory primary central nervous system lymphoma; WBRT=whole brain radiation therapy.

PATIENTS WITH R/R PCNSL FACE A PARTICULARLY POOR PROGNOSIS^{3,4}

PCNSL is a rare, highly malignant non-Hodgkin lymphoma (NHL) that accounts for 2%-3% of NHL and 4% of CNS malignancies³⁻⁵

› Median age at diagnosis is 65 years⁶

Patients with PCNSL are likely to face progression and poor outcomes^{4,7}

- › About one-third of patients may be refractory to first-line MTX-based chemotherapy regimens⁸
- › Up to 60% of patients who respond to first-line treatment may eventually relapse^{4,8}
 - Half of patients relapse within 2 years of initial diagnosis²
- › Most patients whose disease progresses will not achieve a durable second remission²

7.2
MONTHS

Median overall survival time from first disease progression to death from any cause⁴



IN R/R PCNSL NAVIGATING TREATMENT APPROACHES CAN BE CHALLENGING

Considerations with current R/R PCNSL treatment options

- › Many current treatments in R/R PCNSL can cause significant toxicity^{6,9,10}
- › Elderly patients often have comorbid conditions and find medications difficult to tolerate, resulting in poor prognosis^{4,6,11,12}

Patients may be unable to tolerate further intensive therapy due to multiple factors^{2,4,12}

- › Debilitating symptoms, such as cognitive impairment and paralysis
- › Advanced age
- › Renal insufficiency
- › Impaired performance status
- › Poor physiological fitness
- › Other comorbidities

The primary recommendation of the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for R/R PCNSL is clinical trial participation.^{13*}

**R/R
PCNSL**

- › **No** FDA-approved treatment options^{2,4}
- › **No** standard of care^{2,4}
- › **No** preferred regimen, per NCCN Guidelines^{®4,13}

*National Comprehensive Cancer Network® (NCCN®) believes that the best management of any patient with cancer is in a clinical trial.¹³

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IN R/R PCNSL AN UNMET NEED REMAINS FOR AN FDA-APPROVED AGENT^{2,4}

Clinical
Trials

Progress in R/R PCNSL requires overcoming numerous obstacles^{1,2,4,5}

- Lack of prospective, multicenter studies
- Low number of eligible patients
- No standard of care
- Understanding of PCNSL pathobiology is not well established

ONO IS RISING TO THE CHALLENGE

Learn more at [NavigatingPCNSL.com](https://www.navigatingpcnsl.com)

References: 1. Langner-Lemerrier C, Houillier C, Soussain C, et al. Primary CNS lymphoma at first relapse/progression: characteristics, management, and outcome of 256 patients from the French LOC network. *Neuro Oncol.* 2016;18(9):1297-1303. doi:10.1093/neuonc/nov033 2. Ambady P, Doolittle ND, Fox CP. Relapsed and refractory primary CNS lymphoma: treatment approaches in routine practice. *Ann Lymphoma.* 2021;5:23. doi:10.21037/aol-21-20 3. Ahn Y, Ahn HJ, Yoon DH, et al. Primary central nervous system lymphoma: A new prognostic model for patients with diffuse large B-cell histology. *Blood Res.* 2017; 52(4):285-292. doi:10.5045/br.2017.52.4.285 4. Tao K, Wang X, Tian X. Relapsed primary central nervous system lymphoma: Current Advances. *Front Oncol.* 2021;11:649789. doi:10.3389/fonc.2021.649789 5. Lv C, Wang J, Zhou M, Xu J-Y, Chen B, Wan Y. Primary central nervous system lymphoma in the United States, 1975-2017. *Ther Adv Hematol.* 2022;13:20406207211066166. doi:10.1177/20406207211066166 6. Liu Y, Yao Q, Zhang F. Diagnosis, prognosis and treatment of primary central nervous system lymphoma in the elderly population [review]. *Int J Oncol.* 2021;58(3):371-387. doi:10.3892/ijo.2021.5180 7. Ambady P, Fu R, Netto JP, et al. Patterns of relapse in primary central nervous system lymphoma: inferences regarding the role of the neuro-vascular unit and monoclonal antibodies in treating occult CNS disease. *Fluids Barriers CNS.* 2017;14(1):16. doi:10.1186/s12987-017-0064-3 8. Shin S, Silverman J, Bowden G, et al. Relapsed or refractory primary central nervous system lymphoma radiosurgery: report of the International Gamma Knife Research Foundation. *J Radiosurg SBRT.* 2017;4(4):247-253. 9. Nagle SJ, Shah NN, Ganetsky A, et al. Long-term outcomes of rituximab, temozolomide and high dose methotrexate without consolidation therapy for lymphoma involving the CNS. *Int J Hematol Oncol.* 2017;6(4):113-121. doi:10.2217/ijh-2017-0020 10. Li Q, Ma J, Ma Y, Lin Z, Kang H, Chen B. Improvement of outcomes of an escalated high-dose methotrexate-based regimen for patients with newly diagnosed primary central nervous system lymphoma: a real-world cohort study. *Cancer Manag Res.* 2021;13:6115-6122. doi:10.2147/cmar.s322467 11. Schlegel U. Primary CNS lymphoma. *Ther Adv Neurol Disord.* 2009;2(2):93-104. doi:10.1177/1756285608101222 12. Kaulen LD, Baehring JM. Treatment options for recurrent primary CNS lymphoma. *Curr Treat Options Oncol.* 2022;23(11):1548-1565. doi:10.1007/s11864-022-01016-5 13. Referenced with permission from the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Central Nervous System Cancers V.1.2023. © National Comprehensive Cancer Network, Inc. 2023. All rights reserved. Accessed September 14, 2023. To view the most recent and complete version of the guideline, go online to [NCCN.org](https://www.nccn.org).

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