



## Mitigating Chemotherapy-Induced Myelosuppression in ES-SCLC:



An Expert Roadmap  
for Optimizing  
Clinical and Patient-  
Reported Outcomes



Cornerstone  
Medical  
Education



Presented by Cornerstone Medical Education, LLC.  
Supported by an independent, unrestricted educational grant  
from Pharmacosmos Therapeutics, Inc.

### **Bibliography & Suggested Reading**

Aapro M, Beguin Y, Bokemeyer C, et al. Management of anaemia and iron deficiency in patients with cancer: ESMO Clinical Practice Guidelines. *Ann Oncol*. 2018;29(Suppl 4):iv96-iv110.

Abraham I, Goyal A, Deniz B, et al. Budget impact analysis of trilaciclib for decreasing the incidence of chemotherapy-induced myelosuppression in patients with extensive-stage small cell lung cancer in the US. *J Manag Care Spec Pharm*. 2022;28(4).

American Cancer Society (ACS) website. Cancer Facts and Figures. 2025. Available at: <https://www.cancer.org/research/cancer-facts-statistics/all-cancer-facts-figures/2025-cancer-facts-figures.html>. Accessed October 2025.

American Cancer Society (ACS) website. Cancer Facts and Figures. 2023. Special section on lung cancer. Available at: <https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2023/2023-cff-special-section-lung-cancer.pdf>. Accessed October 2025.



Auerbach M, Ballard H, Trout JR, et al. Intravenous iron optimizes the response to recombinant human erythropoietin in cancer patients with chemotherapy-related anemia: a multicenter, open-label, randomized trial. *J Clin Oncol*. 2004;22(7):1301-1307.

Bagheri Z, Labbani-Motlagh Z, Mirjalili M, et al. Types and outcomes of cytopenia in critically ill patients. *J Comp Eff Res*. 2020;9(9):627-637.

Batra N, Khosla AA, Shrestha AB, et al. Trilaciclib use for prevention for hematological adverse events in chemotherapy: a meta-analysis of real-world studies and clinical trials. 2024 ASCO Annual Meeting; May 29, 2024; Chicago, IL. Abstract e24130.

Blayney DW, Schwartzberg L. Chemotherapy-induced neutropenia and emerging agents for prevention and treatment: A review. *Cancer Treat Rev*. 2022;109:102427.

Boccia R, Glaspy J, Crawford J, et al. Chemotherapy-Induced Neutropenia and Febrile Neutropenia in the US: A Beast of Burden That Needs to Be Tamed?. *Oncologist*. 2022;27(8):625-636.

Bohlius J, Bohlke K, Castelli R, et al. Management of Cancer-Associated Anemia With Erythropoiesis-Stimulating Agents: ASCO/ASH Clinical Practice Guideline Update. *J Clin Oncol*. 2019;37(15):1336-1351.

Bryer E, Henry D. Chemotherapy-induced anemia: etiology, pathophysiology, and implications for contemporary practice. *Int J Clin Transfusion Med*. 2018;6:21-31.

CDC website. United States Cancer Statistics – Types of Lung Cancer. February 13, 2025. Available at: <https://www.cdc.gov/united-states-cancer-statistics/publications/lung-cancer-types.html>. Accessed October 2025.

Crawford J, Cella D, Cleeland CS, et al. Relationship between changes in hemoglobin level and quality of life during chemotherapy in anemic cancer patients receiving epoetin alfa therapy. *Cancer*. 2002;95(4):888-895.

Crawford J, Dale DC, Kuderer NM, et al. Risk and timing of neutropenic events in adult cancer patients receiving chemotherapy: the results of a prospective nationwide study of oncology practice. *J Natl Compr Canc Netw*. 2008;6(2):109-118.

Crawford J, Denduluri N, Patt D, et al. Relative dose intensity of first-line chemotherapy and overall survival in patients with advanced non-small-cell lung cancer. *Support Care Cancer*. 2020;28(2):925-932.

Crawford J, Herndon D, Gmitter K, et al. The impact of myelosuppression on quality of life of patients treated with chemotherapy. *Future Oncol*. 2024;20(21):1515-1530.

Cuellar S, McBride A, Medina P. Pharmacist perspectives and considerations for implementation of therapeutic oncology biosimilars in practice. *Am J Health Syst Pharm*. 2019;76(21):1725-1738.



Daniel D, Kuchava V, Bondarenko I, et al. Trilaciclib prior to chemotherapy and atezolizumab in patients with newly diagnosed extensive-stage small cell lung cancer: A multicentre, randomised, double-blind, placebo-controlled Phase II trial. *Int J Cancer*. 2021;148(10):2557-2570.

Drugs@FDA: FDA-Approved Drugs. Trilaciclib. August 25, 2025. Available at: [https://www.accessdata.fda.gov/drugsatfda\\_docs/label/2025/214200s007lbl.pdf](https://www.accessdata.fda.gov/drugsatfda_docs/label/2025/214200s007lbl.pdf). Accessed October 2025.

Epstein RS, Apro MS, Basu Roy UK, et al. Patient Burden and Real-World Management of Chemotherapy-Induced Myelosuppression: Results from an Online Survey of Patients with Solid Tumors. *Adv Ther*. 2020;37(8):3606-3618.

Epstein RS, Basu Roy UK, Apro M, et al. Cancer Patients' Perspectives and Experiences of Chemotherapy-Induced Myelosuppression and Its Impact on Daily Life. *Patient Prefer Adherence*. 2021;15:453-465.

Epstein RS, Weerasinghe RK, Parrish AS, et al. Real-world burden of chemotherapy-induced myelosuppression in patients with small cell lung cancer: a retrospective analysis of electronic medical data from community cancer care providers. *J Med Econ*. 2022;25(1):108-118.

FDA News Release. FDA approves drug to reduce bone marrow suppression caused by chemotherapy – drug is given before chemotherapy to protect bone marrow function. February 12, 2021. Available at: <https://www.fda.gov/news-events/press-announcements/fda-approves-drug-reduce-bone-marrow-suppression-caused-chemotherapy>. Accessed October 2025.

Ferrarotto R, Anderson I, Medgyasszay B, et al. Trilaciclib prior to chemotherapy reduces the usage of supportive care interventions for chemotherapy-induced myelosuppression in patients with small cell lung cancer: Pooled analysis of three randomized phase 2 trials. *Cancer Med*. 2021;10(17):5748-5756.

Frazier SK, Higgins J, Bugajski A, et al. Adverse Reactions to Transfusion of Blood Products and Best Practices for Prevention. *Crit Care Nurs Clin North Am*. 2017;29(3):271-290.

Gilreath JA, Rodgers GM. How I treat cancer-associated anemia. *Blood*. 2020;136(7):801-813.

Gilreath JA, Stenejem DD, Rodgers GM. Diagnosis and treatment of cancer-related anemia. *Am J Hematol*. 2014;89(2):203-212.

Goldschmidt J, Hart L, Scott J, et al. Real-World Outcomes of Trilaciclib Among Patients with Extensive-Stage Small Cell Lung Cancer Receiving Chemotherapy. *Adv Ther*. 2023;40(10):4189-4215.

Goldschmidt J, Monnette A, Shi P, Venkatasetty D, et al. Burden of chemotherapy-induced myelosuppression among patients with ES-SCLC in US community oncology settings. *Future Oncol*. 2022;18(35):3881-3894.



- Hart L, Ogbonnaya A, Boykin K, et al. Burden of chemotherapy-induced myelosuppression among patients with extensive-stage small cell lung cancer: A retrospective study from community oncology practices. *Cancer Med.* 2023;12(8):10020-10030.
- Hart LL, Ferrarotto R, Andric ZG, et al. Myelopreservation with Trilaciclib in Patients Receiving Topotecan for Small Cell Lung Cancer: Results from a Randomized, Double-Blind, Placebo-Controlled Phase II Study. *Adv Ther.* 2021;38(1):350-365.
- Havrilesky LJ, Reiner M, Morrow PK, Watson H, Crawford J. A review of relative dose intensity and survival in patients with metastatic solid tumors. *Crit Rev Oncol Hematol.* 2015;93(3):203-210.
- He S, Roberts PJ, Sorrentino JA, et al. Transient CDK4/6 inhibition protects hematopoietic stem cells from chemotherapy-induced exhaustion. *Sci Transl Med.* 2017;9(387):eaal3986.
- Horn L, Mansfield AS, Szczęśna A, et al. First-Line Atezolizumab plus Chemotherapy in Extensive-Stage Small-Cell Lung Cancer. *N Engl J Med.* 2018;379(23):2220-2229.
- Kalemkerian GP, Khurshid H, Ismaila N; Systemic Therapy for Small Cell Lung Cancer Guideline Expert Panel. Systemic Therapy for Small Cell Lung Cancer: ASCO Guideline Rapid Recommendation Update [published correction appears in *J Clin Oncol.* 2025 Feb 10;43(5):623. doi: 10.1200/JCO-24-02719.]. *J Clin Oncol.* 2025;43(1):101-105.
- Kanuri G, Sawhney R, Varghese J, et al. Iron Deficiency Anemia Coexists with Cancer Related Anemia and Adversely Impacts Quality of Life. *PLoS One.* 2016;11(9):e0163817.
- Kim SY, Park HS, Chiang AC. Small Cell Lung Cancer: A Review. *JAMA.* 2025. Published online March 31, 2025.
- Kuderer NM, Dale DC, Crawford J, Lyman GH. Impact of primary prophylaxis with granulocyte colony-stimulating factor on febrile neutropenia and mortality in adult cancer patients receiving chemotherapy: a systematic review. *J Clin Oncol.* 2007;25(21):3158-3167.
- Kurtin S. Myeloid toxicity of cancer treatment. *J Adv Pract Oncol.* 2012;3(4):209-224.
- Liou SY, Stephens JM, Carpiuc KT, et al. Economic burden of haematological adverse effects in cancer patients: a systematic review. *Clin Drug Investig.* 2007;27(6):381-396.
- Liu Y, Wu L, Huang D, et al. Effect of trilaciclib administered before chemotherapy in patients with extensive-stage small-cell lung cancer: A pooled analysis of four randomized studies. *Cancer Treat Res Commun.* 2024;42:100869.
- Manns BJ, Tonelli M. The new FDA labeling for ESA--implications for patients and providers. *Clin J Am Soc Nephrol.* 2012;7(2):348-53.
- Mountzios G, Aravantinos G, Alexopoulou Z, et al. Lessons from the past: Long-term safety and survival outcomes of a prematurely terminated randomized controlled trial on prophylactic vs. hemoglobin-



based administration of erythropoiesis-stimulating agents in patients with chemotherapy-induced anemia. *Mol Clin Oncol*. 2016;4(2):211-220.

Mountzios G, Sun L, Cho BC, et al. Tarlatamab in Small-Cell Lung Cancer after Platinum-Based Chemotherapy. *N Engl J Med*. 2025;393(4):349-361.

Natalucci V, Virgili E, Calcagnoli F, et al. Cancer Related Anemia: An Integrated Multitarget Approach and Lifestyle Interventions. *Nutrients*. 2021;13(2):482.

National Cancer Institute (NCI). Surveillance, Epidemiology, End Results (SEER) Program. 2025. Available at: <https://seer.cancer.gov/statfacts/html/lungb.html>. Accessed October 2025.

NCCN Clinical Practice Guidelines in Oncology. Hematopoietic Growth Factors. Version 3.2026. December 5, 2025. Available at:

[https://www.nccn.org/professionals/physician\\_gls/pdf/growthfactors.pdf](https://www.nccn.org/professionals/physician_gls/pdf/growthfactors.pdf). Accessed March 2026.

NCCN Clinical Practice Guidelines in Oncology. Small Cell Lung Cancer. Version 2.2026. September 16, 2025. Available at: [https://www.nccn.org/professionals/physician\\_gls/pdf/sclc.pdf](https://www.nccn.org/professionals/physician_gls/pdf/sclc.pdf). Accessed October 2025.

Paz-Ares L, Dvorkin M, Chen Y, et al. Durvalumab plus platinum-etoposide versus platinum-etoposide in first-line treatment of extensive-stage small-cell lung cancer (CASPIAN): a randomised, controlled, open-label, phase 3 trial. *Lancet*. 2019;394(10212):1929-1939.

Pesch B, Kendzia B, Gustavsson P, et al. Cigarette smoking and lung cancer--relative risk estimates for the major histological types from a pooled analysis of case-control studies. *Int J Cancer*. 2012;131(5):1210-1219.

Povsic M, Enstone A, Wyn R, et al. Real-world effectiveness and tolerability of small-cell lung cancer (SCLC) treatments: A systematic literature review (SLR). *PLoS One*. 2019;14(7):e0219622.

Roberts PJ, Kumarasamy V, Witkiewicz AK, et al. Chemotherapy and CDK4/6 Inhibitors: Unexpected Bedfellows. *Mol Cancer Ther*. 2020;19(8):1575-1588.

Rodgers GM 3rd, Becker PS, Blinder M, et al. Cancer- and chemotherapy-induced anemia. *J Natl Compr Canc Netw*. 2012;10(5):628-653.

Rodgers GM, Gilreath JA. The role of intravenous iron in the treatment of anemia associated with cancer and chemotherapy. *Acta Haematol*. 2019;142(1):13-20.

Rodgers GM. A perspective on the evolution of management of cancer- and chemotherapy-induced anemia. *J Natl Compr Canc Netw*. 2012;10(4):434-437.

Rodgers GM. Update on iron supplementation in patients with cancer-related anemia. *Expert Rev Hematol*. 2024;17(8):505-514.



Rudin C, Mountzios G, Sun L, et al. Tarlatamab versus chemotherapy as 2L treatment for SCLC: primary analysis of phase III DeLLphi-304. *J Clin Oncol*. 2025;43(17). Abstract LBA8008.

Schiffer CA, Bohlke K, Delaney M, et al. Platelet Transfusion for Patients With Cancer: American Society of Clinical Oncology Clinical Practice Guideline Update. *J Clin Oncol*. 2018;36(3):283-299.

Shi W, Wang R, Qian J, et al. Discovery of Potent and Selective CDK4/6 Inhibitors for the Treatment of Chemotherapy-Induced Myelosuppression. *J Med Chem*. 2025;68(2):1446-1472.

Siegel RL, Kratzer TB, Giaquinto AN, et al. Cancer statistics, 2025. *CA Cancer J Clin*. 2025;75(1):10-45.

US National Library of Medicine. ClinicalTrials.gov. Available at: <https://clinicaltrials.gov/>. Accessed October 2025.

von Pawel J, Jotte R, Spigel DR, et al. Randomized phase III trial of amrubicin versus topotecan as second-line treatment for patients with small-cell lung cancer. *J Clin Oncol*. 2014;32(35):4012-4019.

Weiss J, Goldschmidt J, Andric Z, et al. Effects of Trilaciclib on Chemotherapy-Induced Myelosuppression and Patient-Reported Outcomes in Patients with Extensive-Stage Small Cell Lung Cancer: Pooled Results from Three Phase II Randomized, Double-Blind, Placebo-Controlled Studies. *Clin Lung Cancer*. 2021;22(5):449-460.

Weiss JM, Csozsi T, Maglakelidze M, et al. Myelopreservation with the CDK4/6 inhibitor trilaciclib in patients with small-cell lung cancer receiving first-line chemotherapy: a phase Ib/randomized phase II trial. *Ann Oncol*. 2019;30(10):1613-1621.

Wong W, Yim YM, Kim A, et al. Assessment of costs associated with adverse events in patients with cancer. *PLoS One*. 2018;13(4):e0196007.