

## DURING AND AFTER TREATMENT

# Peripheral Neuropathy: Common Side Effect

Suzanne M. Mahon, DNS, RN, AOCN®, AGN-BC, FAAN, and Ellen Carr, PhD, RN, AOCN®

*For peripheral neuropathy, standards of care are based on established evidence-based practice.*

## Definition

- Peripheral neuropathy is disease or dysfunction of one or more peripheral nerves (i.e., motor, sensory, or autonomic), resulting in numbness or weakness.
- Peripheral neuropathy occurs outside of the brain and spinal cord and is caused by cancer, treatment, or both.

## Incidence

- Chemotherapeutic agents that can cause peripheral neuropathy include epothilones, platinum analogs, taxanes, and vinca alkaloids, as well as immunomodulating drugs and proteasome inhibitors.
- From 10% to 100% of patients with cancer will develop neuropathy following treatment.

## Assessment Tools and Recommended Intervals

- Functional Assessment of Cancer Therapy/Gynecologic Oncology Group–Neurotoxicity
- Total Neuropathy Score

## Prevention Measures

- Reduce the chemotherapy dose.

## Evidence-Based Interventions and Management

- Carefully manage chemotoxic agents as treatment.
- Consider duloxetine as a serotonin and norepinephrine re-uptake inhibitor antidepressant, which has shown efficacy in treating peripheral neuropathy.
- Consider gabapentin in combination with other medications, such as opioids or imipramine. It should be used with extreme caution in those with pulmonary disease.
- Monitor stability, balance, and gait to prevent injury.

## Agents and Interventions to Avoid

- Avoid aggressive dosing of chemoneurotoxic agents.

## Evidence-Based Resources for Providers

- American Society of Clinical Oncology: Prevention and management of chemotherapy-induced peripheral neuropathy in survivors of adult cancers ([www.asco.org/practice-patients/guidelines/patient-and-survivor-care#9541](http://www.asco.org/practice-patients/guidelines/patient-and-survivor-care#9541))
- NCCN Clinical Practice Guidelines in Oncology: Survivorship (v.3.2021) ([www.nccn.org/professionals/physician\\_gls/pdf/survivorship.pdf](http://www.nccn.org/professionals/physician_gls/pdf/survivorship.pdf))

## Evidence-Based Resources for Patients and Family

- American Cancer Society: Managing peripheral neuropathy (<https://bit.ly/3jBeaaA>)

## REFERENCES

- Autisser, E. (2019). Chemotherapy-induced peripheral neuropathy: Association with increased risk of falls and injuries. *Clinical Journal of Oncology Nursing*, 23(4), 405–410. <https://doi.org/10.1188/19.CJON.405-410>
- Haryani, H., Fetzter, S., Wu, C., & Hsu, Y. (2017). Chemotherapy-induced peripheral neuropathy assessment tools: A systematic review. *Oncology Nursing Forum*, 44(3), E111–E123.
- Loprinzi, C., Lacchetti, C., Bleeker, J., Cavaletti, G., Chauhan, C., Hertz, D., . . . Hershman, D. (2020). Prevention and management of chemotherapy-induced peripheral neuropathy in survivors of adult cancers: ASCO guideline update. *Journal of Clinical Oncology*, 38(28), 3325–3348.
- Oncology Nursing Society. (2019). *Putting Evidence Into Practice: Peripheral neuropathy*. <https://www.ons.org/pep/peripheral-neuropathy>

Suzanne M. Mahon, DNS, RN, AOCN®, AGN-BC, FAAN, is a professor in the Department of Internal Medicine in the Division of Hematology/Oncology and in the Trudy Busch Valentine School of Nursing at Saint Louis University in Missouri and Ellen Carr, PhD, RN, AOCN®, is the editor of the *Clinical Journal of Oncology Nursing* at the Oncology Nursing Society in Pittsburgh, PA. The authors take full responsibility for this content. The article has been reviewed by independent peer reviewers to ensure that it is objective and free from bias. Mahon can be reached at [suzanne.mahon@health.slu.edu](mailto:suzanne.mahon@health.slu.edu), with copy to [CJONEditor@ons.org](mailto:CJONEditor@ons.org). (Submitted June 2021. Accepted August 26, 2021.)

## KEYWORDS

cancer; symptoms; side effects; late effects; long-term side effects; survivorship care

## DIGITAL OBJECT IDENTIFIER

10.1188/21.CJON.S2.30