

## DURING AND AFTER TREATMENT

# Peripheral Neuropathy: Common Side Effect

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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 reuptake 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>

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## KEYWORDS

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