

## DURING AND AFTER TREATMENT

# Cognitive Dysfunction: Common Side Effect

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

*For cognitive dysfunction, standards of care are based on established evidence-based practice.*

## Definition

- Cognitive dysfunction is the decline in function in one or more cognitive domains, including attention and concentration, executive function, information processing speed, language, visuospatial skill, psychomotor ability, and/or learning and memory.

## Incidence

- Cognitive dysfunction occurs in 80% of patients with brain tumors, 40% of patients with acute myeloid leukemia, and as many as 75% of patients with breast cancer.

## Assessment Tools

- No evidence-based screening tool is available (National Comprehensive Cancer Network [NCCN], 2021).
- Patients who report cognitive impairment should be screened and offered treatment for potentially reversible conditions, such as anxiety, depression, or sleep deprivation.

## Prevention Measures

- Encourage 30 minutes of physical exercise daily.
- Recommend yoga and use mind–body practices and relaxation therapy to decrease stress.
- Consider cognitive training with brain games and puzzles.

## Evidence-Based Interventions and Management

- Cognitive training can improve, maintain, or restore mental function through repeated and structured practice. Cognitive training can be delivered in group, individual, or online settings.
- Recommend memory aids, reminders, and technology.
- Encourage 30 minutes of physical exercise daily.
- Suggest yoga, mind–body practices, and relaxation therapy.
- Consider modafinil, armodafinil, or donepezil in patients who have significant issues with cognition.

## Agents and Interventions to Avoid

- Discourage ginkgo biloba as its effectiveness is not likely.
- Avoid erythropoiesis-stimulating factors, which may lead to tumor growth and cardiovascular toxicity.

- Recommend avoiding alcohol because it can impair cognition.

## Evidence-Based Resources for Providers

- Oncology Nursing Society Putting Evidence Into Practice: Cognitive impairment ([www.ons.org/pep/cognitive-impairment](http://www.ons.org/pep/cognitive-impairment))
- 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

- NCCN Guidelines for Patients: Survivorship Care for Cancer-Related Late and Long-Term Effects ([www.nccn.org/patients/guidelines/content/PDF/survivorship-crl-patient.pdf](http://www.nccn.org/patients/guidelines/content/PDF/survivorship-crl-patient.pdf))

## REFERENCES

- National Comprehensive Cancer Network. (2021). *NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®): Survivorship* [v.3.2021]. [https://www.nccn.org/professionals/physician\\_gls/pdf/survivorship.pdf](https://www.nccn.org/professionals/physician_gls/pdf/survivorship.pdf)
- Oncology Nursing Society. (2019). *Cognitive impairment*. <https://www.ons.org/pep/cognitive-impairment>
- Spitzer, R.L., Kroenke, K., Williams, J.B.W., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: The GAD-7. *Archives of Internal Medicine*, 166(10), 1092–1097. <https://doi.org/10.1001/archinte.166.10.1092>
- Stout, N.L., Santa Mina, D., Lyons, K.D., Robb, K., & Silver, J.K. (2021). A systematic review of rehabilitation and exercise recommendations in oncology guidelines. *CA: A Cancer Journal for Clinicians*, 71(2), 149–175. <https://doi.org/10.3322/caac.21639>

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; long-term side effects; survivorship care

## DIGITAL OBJECT IDENTIFIER

10.1188/21.CJON.S2.23