

Fatigue Factsheet

Persistent fatigue can decrease a cancer survivor's participation in activities that make their lives meaningful and is often associated with increased levels of emotional distress.¹

Key facts

Persistent fatigue has been reported in 17%-26% of cancer survivors.²

Survivors of Hodgkin lymphoma, breast cancer treated with adjuvant chemotherapy, ovarian cancer and bone marrow transplant recipients appear to be particularly susceptible.²

Persistent fatigue in survivors has been associated with poorer health related quality of life.³

Fatigue commonly co-occurs with psychological distress and may require a range of behavioural, psychological and / or pharmacological intervention strategies.⁴

Aetiology and contributing factors

Cancer-related fatigue is a subjective feeling of persistent physical, emotional, and/or cognitive tiredness or exhaustion and is related to the cancer or cancer treatments.^{5,6} This fatigue is not proportional to recent activity and interferes with usual functioning. Fatigue can occur as an isolated symptom or more commonly as one element in a cluster of symptoms such as pain, low mood and sleep disturbance and difficulties with concentration or attention.⁶

Post-cancer fatigue describes the condition when the fatigue and accompanying symptoms persist after cancer treatment and are unexplained after medical and psychiatric evaluation.⁷ The manifestation of fatigue and its longer term effects on cancer survivors requires further investigation.⁸

The causes of fatigue are multi-factorial. Researchers have suggested fatigue in cancer survivors is due to persistent activation of the immune system, central nervous system disturbance or other factors related to late effects of treatment on major organ systems.^{6,9} The evidence to support this is inconsistent and many times in persistent fatigue no abnormalities have been found.⁹

Established risk or contributing factors for cancer-related fatigue (not specifically related to post-cancer fatigue in survivors), include:¹⁰

- > anaemia
- > hypothyroidism
- > hypogonadism
- > adrenal insufficiency
- > cardiomyopathy
- > pulmonary dysfunction
- > nausea
- > pain
- > depressed mood
- > emotional distress
- > sleep disturbances
- > sedation secondary to specific classes of medications

- > fluid and electrolyte imbalances

Other risk factors, which have been identified in post-cancer fatigue, include pretreatment fatigue, anxiety and depression levels, physical activity levels, coping methods and cancer-related stressors, comorbidities, type of malignancy, prior treatment patterns and treatment late effects.⁶

Assessment and monitoring

Individuals should be screened for the presence of fatigue at diagnosis to identify if they are at increased risk of post-cancer fatigue. Post-treatment they should then be monitored and rescreened regularly to determine the presence or absence of fatigue.

If fatigue is present, a quantitative or semi-quantitative assessment should be performed and documented. The intensity of the fatigue can be assessed using a numeric rating scale of 0-10 (0 = no fatigue, 10 = worst fatigue imaginable).⁶

Depending on the severity and impact of fatigue, a more focused history and assessment, which may include pathology tests, may be required. Medical issues such as thyroid dysfunction, depression or anaemia need to be eliminated as potential causes of the symptoms of fatigue.⁶

A [large number of assessment tools](#)¹¹ are available, and fatigue is often a component of quality of life measurement tools. The 34-item *Somatic and Psychological HEalth REport (SPHERE)* has been developed and validated for assessment of prolonged fatigue states in a range of primary and tertiary care settings including oncology. It has been recommended due to its sensitivity to measure both fatigue and psychological distress, and the scoring system permits differentiation of both symptom states.⁴

Recommended intervention strategies

Treatable factors that cause fatigue should be identified and managed.⁶

Individuals with absent or mild fatigue (0-3) should be given information and strategies for managing their fatigue, such as:⁶

- > Conserve energy – pacing, prioritising, and delegating activities
- > Avoid/limit day time naps to 20-30 minutes
- > Maintain a structured routine that includes going to bed and getting up at the same time each day

Individuals with moderate to severe fatigue (4-10) may require the above suggestions as well as more specific interventions including measures to promote relaxation and sleep quality, manage stress, improve nutrition as well as pharmacological interventions.⁶

There is strong evidence showing the benefits of increased physical activity for reducing fatigue in individuals with cancer and survivors.¹ A graduated exercise program within tolerance levels is appropriate for individuals who may have a disproportionate fatigue response to relatively small amounts of activity.

Multi-component interventions include the following:^{6, 10}

- > Psychosocial interventions: cognitive behavioural therapies (CBT), psycho-educational therapies / educational therapies, supportive expressive therapies
- > Nutritional consultation to ensure adequate protein and energy intake and hydration and electrolyte balance
- > Sleep strategies / hygiene (avoiding long or late afternoon naps, limiting time in bed to actual sleep time)
- > Stimulus control therapy (go to bed only when sleepy, use bed/bedroom for sleep and sexual activities only, designate a consistent time to lie down and get up, avoid caffeine and stimulating activity in the evening)
- > Strategies to reduce cognitive-emotional arousal (keep at least an hour to relax before going to bed and establish a pre-sleep routine to be used every night)
- > Complementary therapy: massage therapy, progressive muscle relaxation, yoga, mindfulness based stress reduction.

Whilst some evidence exists to support the use of psychostimulants following cancer therapy, further research is required. Current consensus recommends the consideration of pharmacologic interventions only after ruling out other causes of fatigue.⁶

Key Resources

[National Comprehensive Cancer Network. NCCN Clinical Practice Guidelines in Oncology \(NCCN Guidelines\). Cancer-Related Fatigue Version 1.2013.](#)

[Peter Mac: Practical ways of dealing with cancer related fatigue](#)

[Cancer Council \(Victoria\) 'Fatigue, coping with fatigue caused by cancer treatments' fact sheet](#)

[ONS Putting Evidence into Practice: Fatigue](#)

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References:

1. National Comprehensive Cancer Network. NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines) Survivorship Version 1.2013. 2013.
2. Siegel R, DeSantis C, Virgo K, Stein K, Mariotto A, Smith T, et al. Cancer treatment and survivorship statistics, 2012. *CA: A Cancer Journal for Clinicians*. 2012;62(4):220-41.
3. Meeske K, Wilder Smith K, Alfano CM, McGregor BA, McTiernan A, Baumgartner KB, et al. Fatigue in breast cancer survivors two to five years post diagnosis: a HEAL Study report. *Qual Life Res*. 2007;16:947-60.
4. Bennett B, Goldstein D, Lloyd A, Davenport T, Hickie I. Fatigue and psychological distress – exploring the relationship in women treated for breast cancer. *European Journal of Cancer*. 2004;40(11):1689-95.
5. Oncology Nursing Society (ONS). Putting Evidence into Practice: quick view for fatigue. 2008 [16.02.2012]; Available from: <http://www.ons.org/Research/PEP/media/ons/docs/research/outcomes/fatigue/quickview.pdf>.
6. National Comprehensive Cancer Network. NCCN Clinical Practice Guidelines in Oncology Cancer-Related Fatigue Version 1.2013 .2013: Available from: http://www.nccn.org/professionals/physician_gls/PDF/fatigue.pdf.
7. Goldstein D, Bennett B, Friedlander M, Davenport T, Hickie I, Lloyd A. Fatigue states after cancer treatment occur both in association with, and independent of, mood disorder: a longitudinal study. *BMC Cancer*. 2006;6:240.
8. Brearley SG, Stamataki Z, Addington-Hall J, Foster C, Hodges L, Jarrett N, et al. The physical and practical problems experienced by cancer survivors: A rapid review and synthesis of the literature. *European Journal of Oncology Nursing*. 2011(15):204-12.
9. Cameron BA, Bennett B, Li H, Boyle F, deSouza P, Wilcken N, et al. Post-cancer fatigue is not associated with immune activation or altered cytokine production. *Annals of Oncology*. 2012 November 1, 2012;23(11):2890-5.
10. Oncology Nursing Society (ONS). Putting Evidence into Practice: fatigue. [15.02.2012]; Available from: <http://www.ons.org/Research/PEP/Fatigue>.
11. Oncology Nursing Society (ONS). Measuring oncology nursing-sensitive patient outcomes: measurement summary. Fatigue. 2004 [16.02.2012]; Available from: <http://www.ons.org/Research/PEP/media/ons/docs/research/measurement/fatigue.pdf>