



Cancer and Fatigue

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What is Cancer-related fatigue?

- A distressing, persistent, subjective sense of physical, emotional, and/or cognitive tiredness or exhaustion related to cancer or cancer treatment that is not proportional to recent activity and interferes with usual functioning. (NCCN, 2019)

Cancer-related fatigue



Under-reported, under-diagnosed, and under-treated symptom/side effect.



Very common symptom among patients with cancer receiving chemotherapy, radiation, bone marrow transplantation, or treatment with biologic response modifiers.



Approximately 80% of patient who receive chemotherapy and/or radiation therapy can experience fatigue.



Can be a disruptive symptom for months or years after treatment is completed.

Quality of Life

- Cancer-related fatigue (CRF) can make people too tired to take part in daily activities.
- Can cause a delay in returning to work.
- Most distressing symptoms associated with cancer and its' treatment.

Screening is important

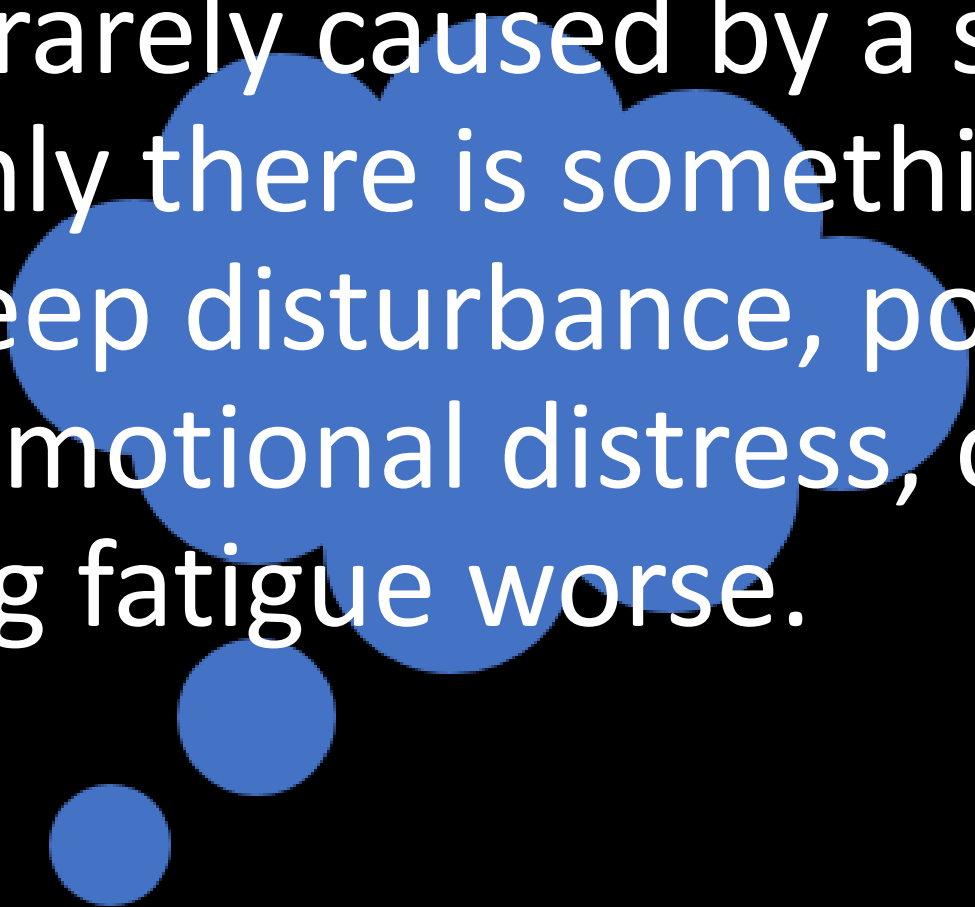
- Providers must ask about fatigue.
- Don't think it's a "bother" to tell your provider about your fatigue, especially if it is impacting activities.
- Numeric scales can be used. Mild fatigue <4; moderate fatigue 4-7; severe fatigue >7 (impacting activities of daily living).

What can cause fatigue to be worse?

- Disease progression
- Medications or interactions between medications
- Use of ≥ 4 medications increases interaction risk
- Other concurrent diseases (especially heart disease, lung disease, autoimmune disease flare, depression)

Treatable
contributing
factors (not
disease or
chemo)

- Pain
- Depression/emotional distress
- Sleep disturbances (insomnia/restless legs)
- Poor sleep hygiene
- Anemia
- Nutrition
- Activity level
- Medications
- Alcohol/substance abuse

- Fatigue is rarely caused by a single factor – commonly there is something else such as sleep disturbance, poor sleep hygiene, emotional distress, or pain that are making fatigue worse.
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Sleep disturbances

- Common – present in 30-75% of patients being with cancer.
- During active treatment there is more time spent resting and sleeping, but the sleep pattern is severely disrupted as people nap more during the day and can't sleep at night
- Sleep apnea can develop from treatment, surgery, weight gain/loss, hormone issues due to treatment.

Sleep hygiene

- Poor habits:
- stick to a regular schedule
- try not to take nap >60 minutes in length during the day.
- Don't ingest caffeine (drinks or foods) after 2pm (or noon for some people)
- Don't drink alcohol right before bed
- Don't eat high sugar foods before bed.

Sleep hygiene

- Make sure your environment is right for sleep:
- Dark room
- Quiet room
- Comfortable bedding
- Comfortable temperature

Sleep hygiene

- Stress reducing activities:
- Reading
- Journaling
- Yoga
- NO gaming, TV watching, computer or cell phone usage or social media use right before bed or during hours that you would normally be asleep.

Sleep hygiene

- Stimulus control – go to bed when sleepy
- Get out of bed after 20 minutes if you can't fall asleep
- Avoid late afternoon naps
- Avoid caffeine after noon

Nutrition

- Nutritional assessment
- Evaluate weight gain or loss
- Calorie needs and changes
- Things that could impede proper calorie intake
- Anemia
- Vitamin/mineral status
- Fluid and electrolyte imbalances

Nutrition

- Modify diet to include all calories needed (you might need more during treatment).
- Correct electrolyte imbalances (sodium, potassium, calcium, iron, and magnesium) with either foods high in those minerals/electrolytes needed and/or supplementation.

Other
questions to
ask
yourself...or
tell your
provider

- Does your fatigue cause a change in your normal activities or exercise?
- Can you walk up the steps without stopping?
- Can you cook, clean, do laundry?
- Are you tired at a certain time of day?
- Do you exercise currently? How much? How has it changed?

Other diseases that can add to fatigue

- Heart disease (CHF or coronary artery disease)
- Lung disease (COPD, bronchitis)
- Kidney disease
- GI issues (diarrhea, IBS, Diverticulitis)
- Liver disease
- Neurologic impairment (dementia, MS, etc)
- Thyroid disease
- Diabetes that's not well controlled
- Peri or post menopausal
- Low testosterone

How do we
treat it???

- First, we must know what your baseline functioning status was.
- If you were running prior to diagnosis/treatment v. walking a block or two those are quite different expectations.

Education

- One of the main strategies for treatment is to provide education about fatigue and what to expect with each treatment or from the disease itself.
- When will fatigue be worst?
- When will it get better?

General strategies to manage fatigue

- Energy conservation – set realistic expectations of what you can do in a day
- Prioritize activities for the day – what is most important? What can wait for later or tomorrow?
- Delegate!!! (or ask for help)
- IT IS OKAY TO SAY NO!

More general strategies

- Keep daytime naps to <60 minutes.
- Keep a diary – when is the best time of day for you? When are you most tired?
- Plan activities based on your diary findings
- Distraction is good – games, music, reading, or spending time with friends and family may also be very helpful.

Non-
medication
based
treatments

- EXERCISE!! (no, I'm not kidding)
- Nutritional counseling
- Cognitive behavioral therapy
- Bright white light therapy

Exercise (physical activity)

- Increased quality of life
- Decreased treatment-related side effects
- Definite improvement in patients with prostate cancer, lymphoma, other hematologic malignancies, and in patients who have undergone hematopoietic stem cell transplant

Exercise

- Moderate activity during and after cancer treatment
- 30 minutes of moderate activity (walking, biking, swimming) most days of the week
- At least 3-5 days of activity per week can result in better outcomes and decreased side effects.
- Can be done on your own or under the supervision of a physical therapist (find one that is knowledgeable about the needs of patients with cancer).

When to use exercise cautiously

- Bone metastases
- Low platelets
- Anemia
- Fever or active infection
- Limitations due to other diseases
- Safety issues (risk of falls)

Yoga

- When compared with no physical activity, this is a good option
- Not necessarily better than moderate exercise, but can be combined.
- Can be helpful for sleep – yoga twice per week resulted in better sleep quality and less disturbances.
- Recommended for those on active therapy in breast cancer (more research needed for other cancers).

Other therapies

- Massage therapy can be helpful - research shows a decreased in fatigue.
- Acupuncture and acupressure – both could be beneficial, but more studies needed for definite recommendations.

Psychosocial interventions

- Cognitive behavioral therapy
- Behavioral therapy
- Supportive expressive therapy

- Fatigue was often mentioned in studies as a secondary finding, but showed some promise.

Complimentary therapies

- Muscle relaxation
- Music therapy
- Hypnosis
- Stress reduction based mindfulness

Bright White Light Therapy (BWLT)

- Exposure to a high fluorescent light emitted from a “light box” purchased for at home use. (used for seasonal affective disorder as well)
- Samples are small and there is not a standard amount of time or length of treatment – these require further study.

Pharmacologic (medications)

- There is some debate about using these medications (there have been significant placebo effects noted in the studies)
- There are some adverse side effects
- Allergic reactions possible

Methylphenidate

- Psychostimulant medication
- Mixed results
- 7 studies that showed significant benefit
- Side effects include headache and nausea

Modafinil

- Approved for use in narcolepsy
- Helpful for those with severe fatigue but not in those with mild or moderate fatigue.
- Side effects include nausea and vomiting

Dietary supplements

- Mixed results
- Coenzyme Q10 – no benefit
- Guarana – no benefit
- American ginseng – some data showing benefit
- Ginger extract – some benefit
- L-carnitine – benefit especially in those with hypothyroidism who underwent surgery for thyroid cancer

Recommendations

- Methylphenidate for those undergoing active cancer treatment (caution in older adults due to increase side effects).
- No sufficient data to support using modafinil
- Antidepressants have not shown benefit
- Treatment of nutritional deficit or imbalance recommended
- Treatment of comorbid diseases recommended.

Fatigue after treatment

- Cause of fatigue post-treatment is unclear.
- May be due to persistent activation of the immune system
- Late effects of treatment on major organ systems.

Fatigue after treatment

- Risk factors:
 - Pretreatment fatigue
 - Anxiety
 - Depression
 - Physical activity levels before and during treatment
 - Coping methods
 - Cancer-related stressors
 - Comorbid conditions
 - Type of malignancy
 - Prior treatment
 - Treatment late side effects.

Treatment for post- treatment fatigue

- Physical activity/exercise as able (high evidence)
- Yoga is shown to reduce fatigue in cancer survivors
- Cognitive behavior therapies
- Mindfulness-based stress reduction (high evidence)
- Nutrition counseling

Treatment of post- treatment fatigue

- 54% response rate with methylphenidate in some trials (may be considered after ruling out other causes of fatigue)
- Modafinil has limited studies (use with caution)

Take home points

- Evaluation of fatigue is important
- Screening should be done before, during, and after treatment (and ongoing)
- Education should be provided
- Treat any other causes of fatigue

Take home points

- Category 1 evidence:
 - Exercise
 - Psychosocial programs to reduce stress and increase support
 - Energy conservation techniques
 - Nutrition counseling/modification
 - Sleep training
 - Drugs for comorbidities
 - Methylphenidate

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