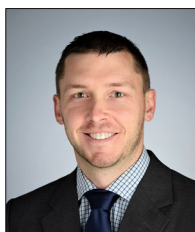




Exercise to Improve Fatigue, Stamina and Strength



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Celebrating a Second Chance at Life Survivorship Symposium

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Manage Fatigue, Improve Your Stamina and Strength

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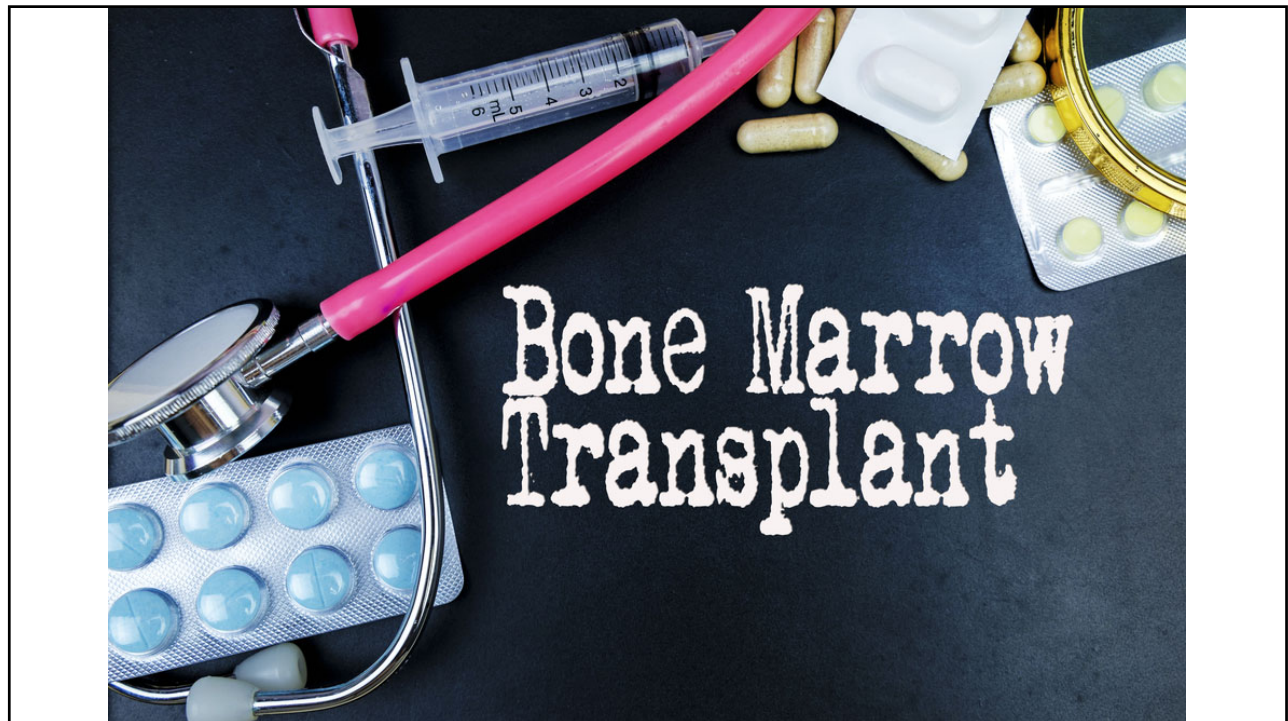


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Introduction

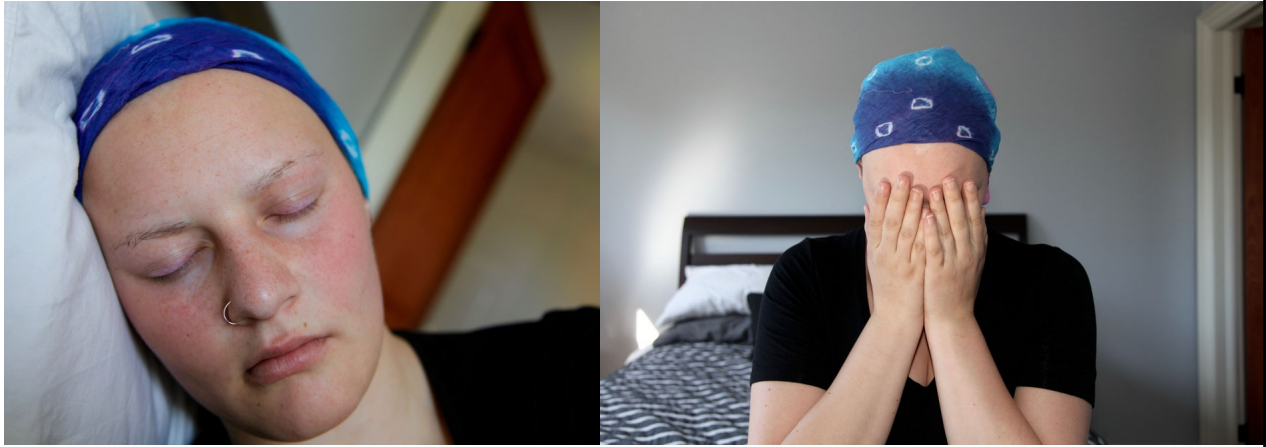
- Discuss fatigue
- What helps fatigue
- Activity and limitations from bone marrow/stem cell transplant
- Fatigue and exercise
- Fatigue and diet
- Function and Graft-versus-Host Disease
- Exercise: Lets move!!
- GVHD Exercise

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Cancer- Related Fatigue: What is it? What helps?



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Cancer-Related Fatigue: American Cancer Society

- “Cancer-related fatigue is worse than everyday fatigue. It lasts longer and sleep doesn’t make it better: It’s unpredictable. People describe it as overwhelming, affecting every part of their lives”
- “Fatigue is the most common side effect of cancer treatment, and it often hits without warning. Everyday activities – talking on the phone, shopping for groceries, even lifting a fork to eat – can be overwhelming tasks.”

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Cancer-Related Fatigue: National Comprehensive Cancer Network

- “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.”
- is reported more frequently than any other physical symptom of cancer and cancer treatments
- affects 70-80% of cancer survivors at all stages of disease and recovery
- compared to fatigue experienced by healthy individuals, is more severe, more distressing, and less likely to be relieved by rest.

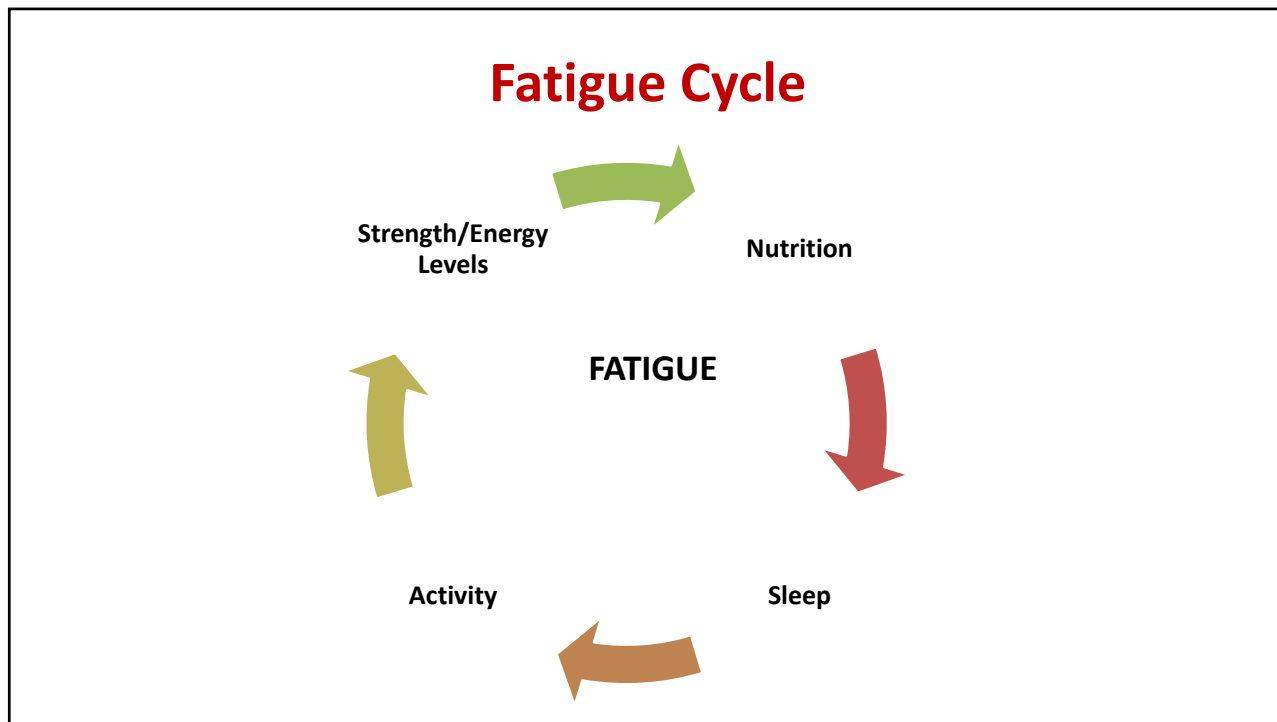
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What Causes Cancer-Related Fatigue?

Can be a side effect of many common cancer treatments such as:

- Chemotherapy
- Radiation
- Surgery
- Stem Cell Transplant
- Cancer Process Itself
- Other pre-existing health conditions

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- ### Things That Improve Fatigue
- Diet
 - Exercise
 - Everyday activities
 - Balance rest and activity
 - Work
 - Play
 - Exercise
 - Mindfulness activities
 - Meditation
 - Prayer
 - Music
 - Etc.

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Fatigue and Diet

- Choose foods that have good source of calories, protein, and fiber
- Eat Small, frequent meals and snacks
- ↑ Fiber \geq 30 grams/day
- ↓ added sugars \leq 30 grams/day, especially in liquids
- Stock home with easy to prepare meals
- Drink at least 8 cups of fluid per day
- For further dietary needs, speak with your local Dietitian for individual food planning and nutritional support.

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Activity

- Everyday activities are often difficult when going through bone marrow transplant and recovery.
 - Standing up from chair
 - Walking in a grocery store
 - Climbing stairs
 - etc.
 - What other limitations have you noticed?

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GVHD and How it Affects Function

- Acute GVHD
 - Increased intake of steroids to treat GVHD can result in muscle weakness
 - Fluid retention
 - Skin/GI issues
- Chronic GVHD
 - Skin tightness
 - Extreme Fatigue/Weakness
 - Vision Changes



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Fatigue and Exercise

- A 2018 review of nearly 170 research articles found that exercise helps to reduce fatigue after bone marrow transplant.

	Aerobic	Resistance	Flexibility
US Physical Activity Guidelines for Americans (PAGA)	150 min/week of moderate intensity or 75min/week of vigorous-intensity activity, or an equivalent combination	Muscle-strengthening activities of at least moderate intensity at least 2 days/week for each major muscle group	Stretch major muscle groups and tendons on days other activities are performed

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Evidence of Exercise Benefits Post-Transplant

- Decreases fatigue
- Improves heart function
- Builds muscle mass
- Improves breathing efficiency
- Improves quality of life
- Reduces length of stay in the hospital setting



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Effects of Exercise on Health-Related Outcomes in Those with Cancer

- Exercise has been shown to aid in prevention of 7 common cancers
 - Bladder, breast, colon, endometrial, esophageal, kidney and stomach
- Physical activity guidelines recommend 150min/week aerobic exercise and 2x/week strength training

STRONG EVIDENCE	Dose	Dose
Cancer-Related Fatigue	3x/week for 30 minutes per session of moderate intensity	2x/week of 2 sets of 12-15 repetitions for major muscle groups at moderate intensity

Citation: bit.ly/cancer_exercise_guidelines

Moderate intensity (40%-59% heart rate reserve or VO₂R) to vigorous intensity (60%-89% heart rate reserve or VO₂R) is recommended.



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Types of Exercise and How They Help

Exercise	Exercise Type	How does this help?
Walking/Jogging	Aerobic	<ul style="list-style-type: none"> - Improves heart and lung endurance - Decreases fatigue with consistent routine
Weight Lifting/Strength Training	Resistance/Strengthening	<ul style="list-style-type: none"> - Builds muscle mass - Improves muscle strength
Yoga	Stretch/Strength	<ul style="list-style-type: none"> - Improve flexibility - Improve general strength
Swimming	Aerobic	<ul style="list-style-type: none"> - Improves endurance - Easier on your joints
Cycling/Recumbent Bike	Aerobic	<ul style="list-style-type: none"> - Improves heart and lung endurance - Decreases fatigue with consistent routine

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Common Reasons Patients Do Not Exercise

- Misunderstanding
 - Didn't know they could
 - Too many exercises prescribed
 - Cannot remember proper technique of the exercise or what position to be in
- Fatigue/Pain
 - Exercise just makes me more tired
 - My muscles hurt the next day

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Exercise and Chronic Skin GVHD

- Daily stretching
 - Yoga
 - Focus on area of problem
 - Wrist/hand
 - Ankles
 - Other
- Strengthening
- Aerobic
- Sometimes splinting or specialized hand therapy is needed

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See Exercise Sheets

<https://uofutahhealth.medbridgego.com/>

Access Code: WZAD26KG

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Sit to Stand Exercise

- Research shows the average healthy adult goes from a sitting to a standing position 45 times per day.
- Try to increase the amount you stand up from a seated position
- Add intentional sit to stands to your daily routine by performing 5 sets of 5 each day.

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Sit to Stand

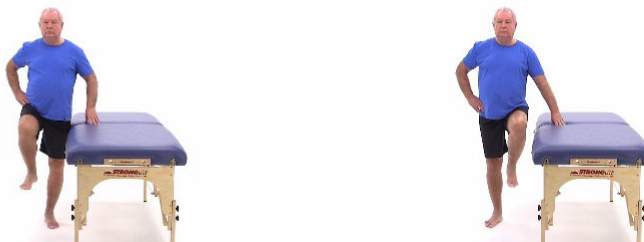
- You can use your hands to push from the chair or arm rests if needed
- Stand up tall before slowly returning to a seated position
- Remember to make sure your seat is secure and will not move out from under you



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March in Place

- Begin by standing tall next to a counter or table
- Slowly lift one knee up to waist height, maintaining a tall posture, then slowly lower
- Alternate legs, 10 times on each side



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Step Up

- This exercise can be performed by using the bottom step of your staircase (if you have stairs in your home)
- Use the railing if needed for safety
- Step up onto the step platform with your strongest leg first, driving upwards so that your opposite foot can raise up to the step.
- Slowly lower back down and repeat on the opposite leg.
- Work up to 10 repetitions on each leg



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Starting a Walking Routine

- Try to choose a route that is indoors or is close to home, relatively flat, and has plenty of benches or places to rest along the way.
- For safety, have someone with you when you are walking.
- Breathe easily while exercising and do not hold your breath. You should be able to comfortably hold a conversation while exercising.
- Wear proper shoes and loose fitting clothing.

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STOP Activity and Sit If You Have These Symptoms

- Shortness of breath
- Muscle cramps
- Chest pain or angina
- Nausea
- Faintness or lightheadedness
- Cold sweat
- Palpitations
- Excessive fatigue

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Walking Program: Pace Yourself

Walk at a comfortable pace, taking rest breaks if needed. It is recommended to reach 4-6 out of 10 on the Borg scale:

BORG Rate of Perceived Exertion (RPE) Scale

0	Nothing at all	5	Strong
0.5	Very, very weak	6	
1	Very weak	7	Very strong
2	Weak	8	
3	Moderate	9	
4	Somewhat Strong	10	Very, very strong, maximal

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Walking Program: Pace Yourself

- If you are beginning a walking program at home, remember to gradually begin a program.
- You may increase the amount of time you walk or your speed if you are feeling well, as long as your exertion is at a 4-6 level on the Borg Scale.
- If you are unable to increase your distance or speed due to fatigue or increased difficulty, it is fine to remain at that level until you are able to progress.

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Example of How to Pace Yourself

If you are able to walk 10-15 minutes currently:

- Warm up by performing 1-2 minutes of seated exercises or leisurely walking
 - Week 1: Walk for 10-15 minutes, 2-3 times/ day
 - Week 2: Walk for 15-20 minutes, 2-3 times/ day
 - Week 3: Walk for 20-25 minutes, 2-3 times/ day
 - Week 4: Walk for 25-30 minutes, 2-3 times/ day
- Cool down by performing 1-2 minutes of seated exercises or leisurely walking.

The end goal is to walk for 30 to 45 minutes, 5 to 7 days per week.

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Strategies to Keep Moving

- Write it down and track it
 - FitBit, walking apps, pencil & paper
- Exercise with a friend/co-worker/neighbor
 - They will hold you accountable
- Set specific goals
 - Most 5K runs have a walk associated with them
 - 'Active Vacation'
- Plan ahead
 - Bring work-out clothes with you; change at work; look at weekly schedule to see 'exercise opportunities'

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Questions?

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