



UCSF

# Managing Fatigue *with Diet and Exercise*

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Our team at UCSF studies the role of diet and exercise in cancer survival.

We work to:

- Understand what lifestyle behaviors increase risk of worse cancer outcomes
- Develop and test diet and exercise programs using rigorous science
- Create guidelines and resources for cancer patients and survivors

For information about our studies, please see <https://urology.ucsf.edu/lifestyle> for urology studies.

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# INTRODUCTION

Fatigue or feeling tired is a common side effect of cancer treatment. Exercise has been shown to reduce fatigue in research studies. Eating a nutrient dense, well-balanced diet is another approach for increasing energy and combating fatigue. While there is no “magic bullet” for fatigue, exercise and a healthy diet can help promote higher energy levels.

This practical guide aims to:

- Help you manage your fatigue with diet and exercise
- Help you adopt and maintain health behaviors during treatment that you can continue after you complete treatment



# EXERCISE AND FATIGUE



**Save energy for exercise.** Exercise is the most effective strategy for managing fatigue but often the least used! Exercise decreases cancer-related fatigue by:

- Increasing blood flow
- Improving mood
- Limiting stiffness
- Maintaining muscle and strength
- Improving sleep duration and quality

It may not be possible for you to exercise, especially at a vigorous level, during or immediately after treatment. Exercise can come in a variety of forms from very low to low intensity, such as stretching, slow walking, or yoga, to moderate to high intensity, like brisk walking, biking (outside or stationary) or jogging. It is important to practice activities that are within your range of abilities. Gradually build up the time and intensity of these activities as your body adjusts.

Your doctor will help you determine what level of exercise is appropriate for you. They may also recommend someone who specializes in creating exercise plans for individuals with cancer or survivors of cancer.

When discussing exercise with your doctor or health care team:

- Talk about how to incorporate exercise into your day during radiation treatment.
- Talk about any exercises you plan to do and ask about any possible limitations.

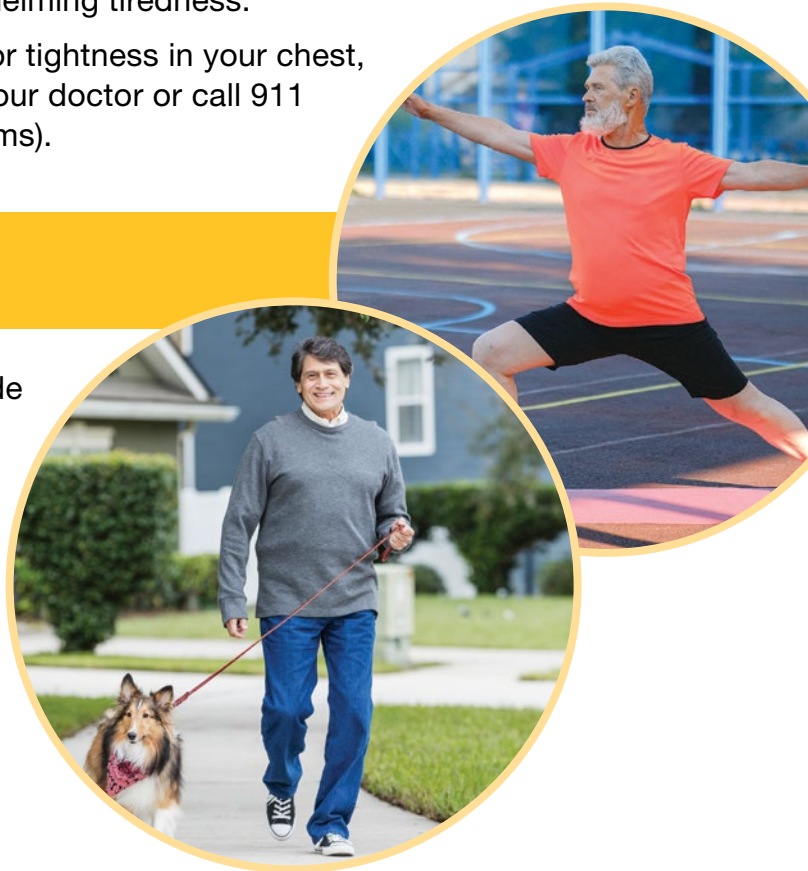
# EXERCISE AND FATIGUE

- Make sure you have your doctor's approval to continue (or start).
- Listen to your body. While exercise involves exertion and will feel challenging, you should never feel acute pain or overwhelming tiredness.
- If you have any shortness of breath, pain, or tightness in your chest, stop exercising immediately and contact your doctor or call 911 (depending on the severity of your symptoms).

## EXERCISE STRATEGIES TO OPTIMIZE ENERGY

**Try low-intensity workouts**, which can provide an immediate energy boost. For example:

- Walking at a casual pace
- Light jogging
- Tai chi
- Slowly lifting weights
- Using an elliptical machine
- Rowing at a steady pace
- Cycling at a casual pace
- Dancing as a social activity and exercise!



**Add in a yoga session** to boost mood and energy while reducing stress and fatigue. You will be forced to slow down and focus on your breathing and stretching.

**Include brisk walks outdoors**, in a park or nature area if possible. Just being outside and surrounded by nature can improve energy, mood, and reduce tiredness. If you don't have safe places near you to walk outside, identify indoor spaces to walk where you feel safe, such as a mall or retail store.

**Stand up** and walk around frequently. Even just a few minutes of standing and stretching is enough to jump start your heart and muscles.

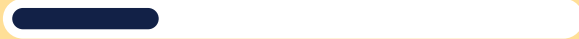
**Breathe deeply.** Inhaling and exhaling completely can energize you. Focus your attention on your breath and try this exercise: Slowly inhale to a count of 6. Hold your breath for a count of 3. Then, exhale for a count of 6, completely releasing all of your breath and relaxing your muscles as you do so. Repeat 4 additional times.

# EXERCISE AND FATIGUE

## DAILY ENERGY ASSESSMENT

### How is your energy level?

#### Low



- Light exercise can help you feel better. Walking or yoga are good options – try to do just 10 minutes at an easy and comfortable pace and see if it helps.



#### Medium



- Try to get at least 30 minutes of moderate aerobic exercise. The exercise doesn't have to be intense – just move your body and you might feel more energized afterward.

OR

- Alternatively, try resistance training with bands (long, wide rubber bands or tubing) – this focuses the work on specific muscles rather than the whole body.



#### High



- Try to put your energy to good use by getting at least 30 minutes of aerobic exercise. Exercise at a level that increases your heart rate and breathing and causes you to break a sweat. You are exercising at the right level when you can talk in short sentences, but not sing.

OR

- Perform a resistance exercise workout. Choose 8-10 different exercises that work all major muscle groups (legs, hips/glutes, back, chest, arms, abs). Strive to do 2-3 sets of 8-12 repetitions for each exercise.

# NUTRITION AND FATIGUE

## EATING STRATEGIES TO OPTIMIZE ENERGY

**Drink plenty of water;** aim for at least eight cups of water daily. Mild dehydration can contribute to fatigue.

**Include plenty of vegetables and fruits** such as broccoli, kale, spinach, winter squash, berries, sweet potatoes, and carrots. Plan to fill at least half of your plate with vegetables for two or more meals each day.

**Limit added sugars and refined, processed foods.** Sugary, processed foods such as sweets, muffins, and sugary drinks often make you feel more tired after the quick “sugar boost” wears off.

**Replace processed foods with whole grains and beans/legumes.** Because these foods contain nutrients and fiber, they provide a more sustainable energy source.

- Whole grains include oats, barley, millet, quinoa, amaranth, brown or wild rice, bulgur, buckwheat, kamut, rye, spelt, teff, whole wheat and more...
- Check that the first ingredient of bread or grain products contains the word “whole” or “sprouted”.

**Include protein in every meal and snack.** Protein helps maintain steady blood sugar and energy levels. Healthy protein rich foods include:

- Beans and legumes (including soy)
- Fish
- Chicken or turkey without the skin
- Egg whites
- Nuts and seeds
- Plain, low-fat yogurt (especially Greek yogurt)



# NUTRITION AND FATIGUE

**Like protein, eating small amounts of healthy fats will prevent blood sugar and energy levels from dropping between meals.** Healthy fats are those found in nuts and seeds, fatty fish like salmon or sardines, avocados, and extra-virgin olive oil.

**Fatigue and muscle weakness can be worse if vitamin D levels are low.** Ask your doctor to check your vitamin D level and discuss whether a vitamin D supplement may be appropriate for you. Sources of Vitamin D include sunlight, supplements, fish, and fortified foods. Patients on hormone therapy are typically asked to take vitamin D and calcium pills daily.

**Avoid nutrition “energy busters” including:**

- Skipping meals, especially breakfast
- Large meals, especially the evening meal
- Empty calories from processed snacks and sugary drinks
- Too much caffeine and/or alcohol

**Make a plan to eat well even when you are tired:**

- When cooking, prepare extra and freeze individual portions for later.
- Stock up when shopping and use grocery delivery if available.
- Keep it simple by using healthy convenience foods such as canned tuna, sardines, beans, pre-cooked whole grains, frozen vegetables or fruits, and low sodium vegetable soups.
- Conserve energy when cooking by using a stool to sit during food prep, if needed.
- Use time saving appliances such as a food processor, crock pot, rice cooker, or pressure cooker.
- Let family and friends help with cooking, shopping, and errands. Provide them with recipes or grocery lists to make it easier for them to help you get what you need.

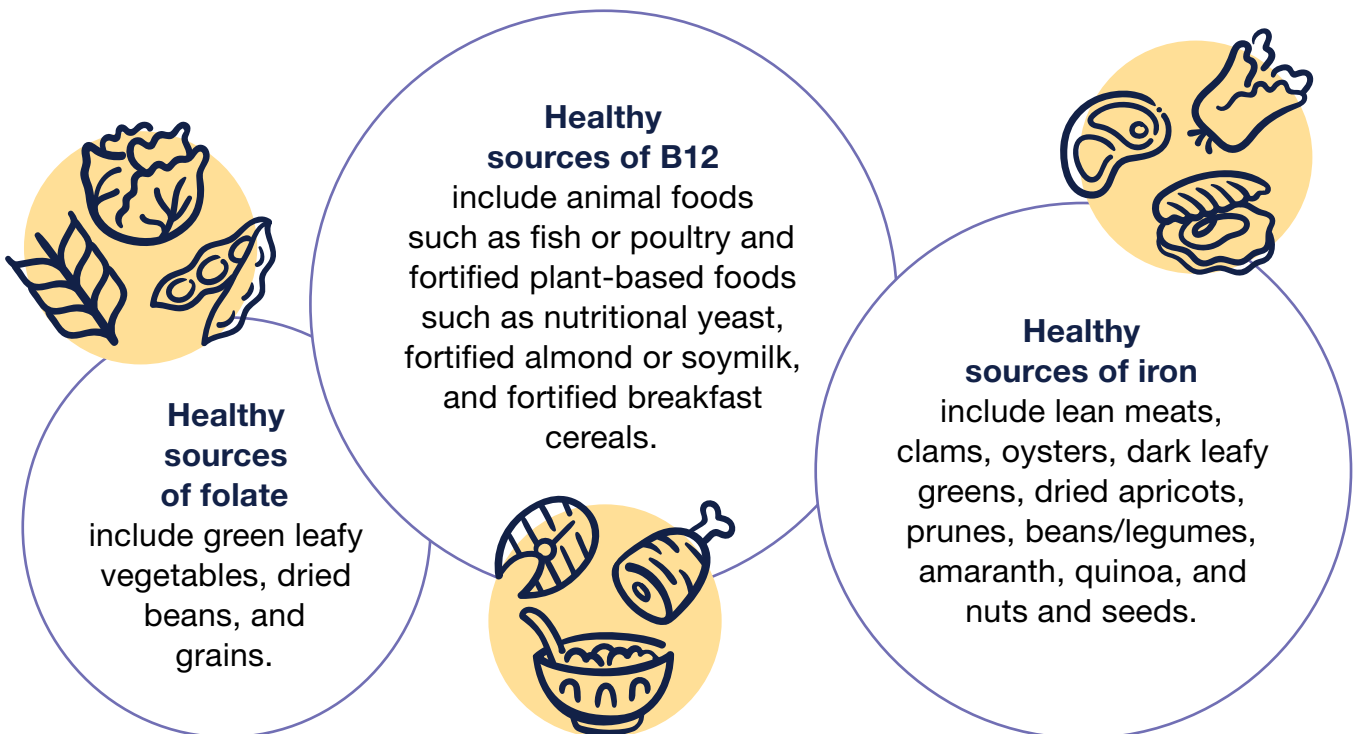


# NUTRITION AND FATIGUE

## NUTRITION AND ANEMIA

Cancer and cancer treatments (including some forms of radiotherapy and chemotherapy) can cause anemia, a condition where there are not enough healthy red blood cells to deliver adequate oxygen to the tissues throughout the body. Anemia causes fatigue.

The body requires nutrients such as folate, vitamin B12, and iron in order to make red blood cells. It is important to improve food sources of these nutrients rather than taking supplements. However, vegetarians and vegans may be low in vitamin B12 and/or iron. Talk to your doctor about whether supplementation is right for you before taking any supplements.



# MEAL & SNACK IDEAS TO OPTIMIZE ENERGY

## MEALS

Meal Idea	Protein	Carbohydrate	Vegetables/ Fruits	Healthy Fat
<b>Hot cereal w/soy milk, nuts and fruit</b>	1 cup unsweetened soy milk	1 cup cooked hot cereal (oatmeal, kasha, quinoa or millet)	1/2 cup fresh or frozen berries	2 tablespoons chopped nuts or ground flax seed
<b>Turkey and avocado or hummus sandwich and fruit</b>	2 oz fresh roasted turkey (not deli or processed meat)	2 slices whole grain bread	Lettuce, tomato, peppers Small piece of fruit	2 tablespoons of avocado or hummus
<b>Large salad</b>	1/2 cup lentils or 3 oz salmon or chicken breast	1/2 cup cooked barley or farro	1 – 2 cups salad greens + 1 cup vegetables of choice Squeeze of lemon	2 tablespoons oil-based vinaigrette dressing + 5 olives
<b>Stir fry</b>	3 oz of cooked chicken, fish, tofu or tempeh	1/2 – 2/3 cup cooked brown rice, quinoa or barley	1 cup fresh or frozen vegetables such as broccoli or cauliflower	2 teaspoons avocado oil for stir-frying

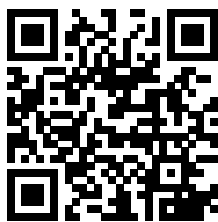
## SNACKS

Snack Ideas	Protein & Healthy Fat	Carbohydrate
<b>Crackers/toast and nut butter</b>	2 tablespoons almond or natural peanut butter	2 – 4 whole grain crackers or 1 slice whole grain toast
<b>Hummus and vegetables</b>	1/4 cup hummus	1 cup raw vegetables such as carrots, radishes, broccoli
<b>Fruit and nuts</b>	1/4 cup raw or dry roasted nuts or seeds	1 small piece of fruit such as an orange, apple, or pear
<b>Homemade trail mix</b>	2 tablespoons nuts/seeds such as almonds or walnuts	1/4 whole grain cereal + 1 tablespoon dried fruit
<b>Blended fruit smoothie</b>	1 cup unsweetened soymilk or 1 cup unsweetened almond or rice milk with 1 scoop protein powder	1 cup fruit (fresh or frozen berries or other seasonal fruit) + 1 cup leafy greens such as baby kale or spinach

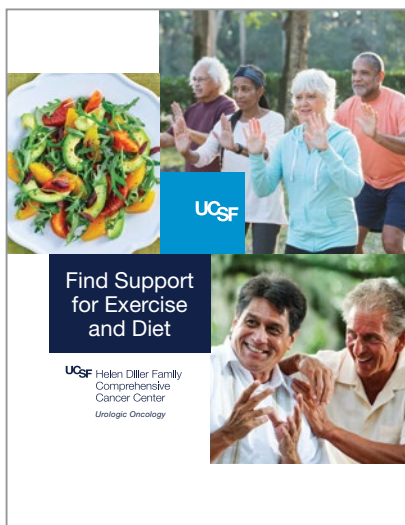
# RESOURCES

Our team aims to improve patient care through lifestyle studies and publications. Access our freely available materials at <https://urology.ucsf.edu/lifestyle/resources>

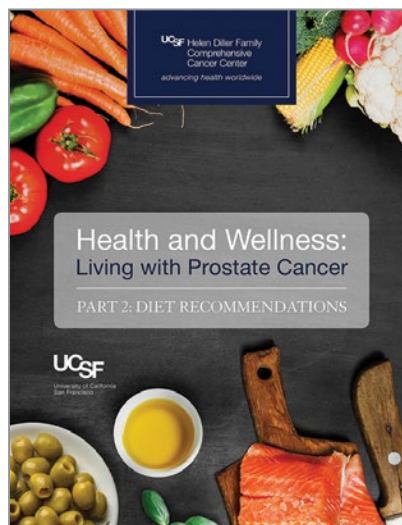
Take a picture of this QR bar code using your smart phone to access the digital guide!



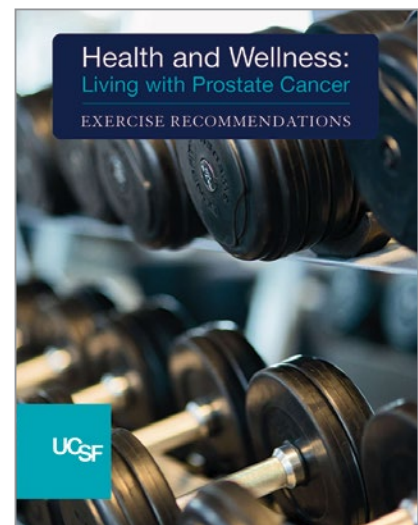
We'd like to know what you think! Take a brief survey to share your thoughts at <http://tiny.ucsf.edu/RYbtJu> or using the code.



**Support**



**Diet**



**Exercise**



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