

# Health Link

Healthy living after treatment of childhood, adolescent, and young adult cancer

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## Cataracts after Cancer Treatment

Childhood cancer treatment sometimes requires the use of medications or radiation that can increase the risk of developing cataracts. Because vision can have a significant impact on daily living, it is important for survivors who received these treatments to have their eyes checked regularly.

### What is a cataract?

A cataract is clouding of the normally clear lens of the eye. Cataracts often develop slowly, but as the clouding increases, vision can be affected.

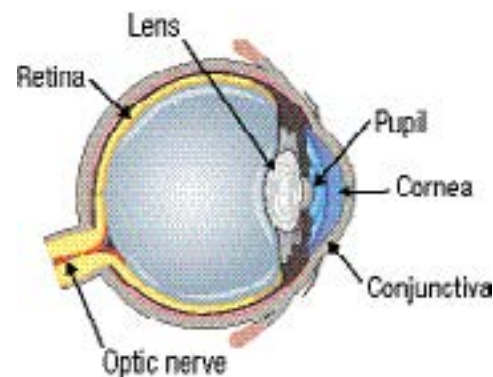
### How does a cataract affect vision?

The eyes are remarkable organs, allowing light to be converted into impulses that are transmitted to the brain, where images are perceived. Light enters the eye through a clear layer of tissue known as the **cornea**. The cornea bends and focuses the light and sends it through the opening of the eye known as the **pupil**. The pupil controls how much light enters the eye. Behind the pupil is the **lens** of the eye, which focuses the light onto the **retina**, the membrane along the back wall of the eye. The nerve cells in the retina change the light into electrical impulses and send them through the **optic nerve** to the brain, where the image is perceived. When the **lens becomes cloudy due to a cataract**, the image delivered to the retina becomes blurry.

### What are the symptoms of a cataract?

Common symptoms of cataracts include:

- Painless blurring of vision
- Sensitivity to light and glare
- Double vision in one eye
- Poor night vision
- Fading or yellowing of colors
- The need for frequent changes in prescriptions for glasses or contact lenses



### What cancer therapies increase the risk of developing cataracts?

Certain chemotherapy, including:

- **Busulfan**
- **Corticosteroids**, such as prednisone and dexamethasone

**Radiation therapy** to the following areas:

- Eye and surrounding tissue (orbits)
- Head or brain
- Total body irradiation (TBI)

**The risk for cataracts increases** with:

- Higher radiation doses
- Frequent exposure to sunlight
- The passage of time (the longer off therapy the survivor is)

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## What monitoring is recommended?

- Have an eye examination every year during your regular check-up
- See an eye specialist (ophthalmologist or optometrist) for a full eye evaluation every year if you had:
  - Total body irradiation (TBI)
  - Radiation to the head, brain or eyes
  - Corticosteroids
  - A tumor involving the eye

## How are cataracts treated?

Not all cataracts need treatment. In many cases, an ophthalmologist may monitor the vision closely over many years and will recommend treatment if and when it becomes necessary. The only treatment for cataracts is surgical removal of the lens and replacement with an artificial lens. Today, cataract surgery is a low-risk procedure that is performed on an outpatient basis and usually is successful in restoring vision.

## How can I keep my eyes as healthy as possible?

- Wear sunglasses with ultraviolet (UV) protection when in bright sunlight.
- When participating in sports, be sure to select protective eyewear that is appropriate for the sport. Eyewear worn for sports should be properly fitted by an eye care professional.
- Avoid toys with sharp, protruding or projectile parts.
- Never play with fireworks or sparklers of any kind to avoid accidental injury.
- Be careful when working with hazardous household chemicals.
- Wear protective eyewear when using a lawnmower, power trimmer, or edger, and when working with dangerous equipment in the workshop.
- If you do experience an eye injury, seek medical attention promptly.

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**Additional health information for childhood cancer survivors is available at**  
[www.survivorshipguidelines.org](http://www.survivorshipguidelines.org)

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## Staying Healthy through Nutrition and Physical Activity

Good nutrition and regular exercise offer many benefits to childhood cancer survivors. These include:

- Promoting healing of tissues and organs affected by cancer and its treatment
- Building strength and endurance
- Reducing the risk of certain types of adult cancers and other diseases such as diabetes, high blood pressure, and obesity
- Decreasing stress and providing a feeling of well-being

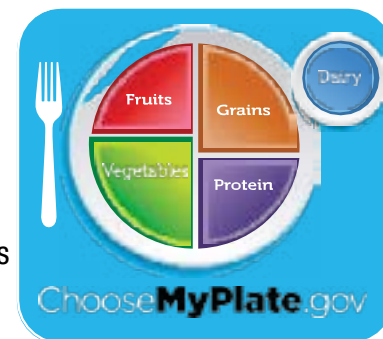
### Impact of Childhood Cancer on Nutrition and Physical Activity

The effects of childhood cancer on nutrition and physical activity will be different for each survivor. Cancer affects nutrition in several ways. Some survivors may have difficulty gaining weight, while others may have problems with gaining too much weight. Physical activity is an important factor in maintaining a healthy body weight. There are many factors that can influence a survivor's ability to be physically active; however, childhood cancer and its treatment should not be used as an excuse for not eating a healthy diet or staying physically active. Many survivors, just like many people who have never experienced cancer, have poor health habits. Now is a good time to begin making healthy choices about what you eat and stay active. These choices can have a positive effect on your health for many years to come.

### Developing a Healthy Nutrition Plan

Suggestions for good nutrition include:

- Choosing a variety of foods from all the food groups. Use the interactive customized guide at [www.choosemyplate.gov](http://www.choosemyplate.gov) to help develop a well-balanced diet and activity plan.
- Eating five or more servings a day of fruits and vegetables, including citrus fruits and dark-green and deep-yellow vegetables.
- Limiting juice to 4 ounces of 100% fruit or vegetable juice per day.
- Eating plenty of high-fiber foods, such as whole grain breads, rice, pasta, and cereals.
- Limiting refined carbohydrates, including pastries, sweetened cereals, soft drinks, and sugars.
- Decreasing the amount of fat in your meals by baking, broiling or boiling foods.
- Limiting intake of red meat and eating fish, poultry, or beans instead. When eating meat, select leaner and smaller portions.
- Limiting fried and high-fat foods, such as fries, snack chips, cheeseburgers, and pizza.
- Choosing low-fat milk and dairy products.
- Avoiding salt-cured, smoked, charbroiled, and pickled foods.
- For adults, limiting alcoholic drinks to less than two a day for men and one for women.



**If you need to lose or gain weight**, consult with your health care team and/or a nutritionist to develop a nutrition plan. Herbal or dietary supplements should be discussed with your team. There are several questions you should ask yourself to make sure your nutrition plan will be effective.

- Do you have a realistic, achievable weight goal?

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- Does your plan include foods that you will enjoy eating for the rest of your life, not just a few weeks or months?
- Does your plan include a variety of foods?
- Are foods on your plan easily available at your supermarket?
- Does your plan fit into your lifestyle, daily schedule and budget?
- Does your plan include lifestyle changes that will help you maintain your weight change?

## Developing a Healthy Exercise Plan

Check with your healthcare team before starting an exercise plan or taking part in new sports and recreational activities. Your healthcare provider can make you aware of the activities that you can safely take part in and those you should avoid.

When choosing an exercise plan, ask yourself these questions:

- Do you have reasonable goals based on your present strength and endurance?
- Is the activity safe for you to perform?
- Does the plan fit into your lifestyle and schedule?
- Does the activity require special equipment or protective gear and will your budget cover the expense?
- Do you need to make changes in the sport or activity based on a special need?
- Do you enjoy doing the sport or activity?

Here are a few helpful suggestions when implementing your exercise plan:

- Start out slow. Don't try activities that are too strenuous or put you at risk for muscle strain.
- Begin your exercise plan with a warm-up program and end with a cool-down activity, such as stretching and slow easy movements.
- Use correct posture when exercising.
- Exercise until you are tired, but not in pain.
- Identify the muscles you want to strengthen and choose exercises that work on those muscles.
- Alternate exercises to work different muscles and different parts of your body.
- To avoid injury, use the right equipment and shoes. Avoid running, jogging, or aerobic dancing on hard surfaces such as asphalt or concrete.

The American Cancer Society recommends having a physically active lifestyle. Adults should get at least 150 minutes of moderate physical activity (brisk walking, bicycling, vacuuming, gardening), or 75 minutes of vigorous physical activity (running, aerobics, heavy yard work), or a combination of these each week, preferably spread throughout the week. Children and adolescents should engage in at least 60 minutes each day of moderate to vigorous physical activity each day (running, aerobics, heavy yard work), with vigorous activity at least 3 days each week. Here are some practical suggestions to try to work physical activity into your daily schedule.

- Park a good distance from your place of work and walk the extra distance each day.
- Set aside 30 minutes a day to take a brisk walk.
- Take the stairs instead of the elevator.

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- If you have a sit-down job, get up and stretch your muscles every hour and take a walk during your lunch or break.
- Ride a bike to work or for running errands.
- If you have a dog, take him/her on a brisk walk every day.
- Plant a garden, wash your car, mow the lawn, paint furniture, clean out the garage and catch up on all those chores you have been meaning to do—instead of watching TV or playing on the computer.
- Keep your body moving while watching TV or reading the newspaper on a stationary bike or treadmill.
- Plan active outings with family or friends.
- Exercise with a partner.
- Join a sports team.

## Physical Activity for Survivors with Special Needs

Survivors who have special needs can take part in most activities, but the help of a physical or occupational therapist may be needed to adapt the activity for success. A social worker may be able to help find insurance coverage or other resources for special equipment. Specialized programs for individuals with special needs, organizations and other resources are often available through your healthcare center, in your local community, and at [www.nchpad.org](http://www.nchpad.org).

Adapted by Sharon A. Friedrich, RN, MS, CPNP, University of Wisconsin Hospital and Clinics, Madison, WI, from “Staying Physically Healthy, Play Safely, Play Well,” St. Jude Children’s Research Hospital, used with permission.

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