

A BRIEF UPDATE

From the Long-Term Follow-Up Study

April 2015

<http://ltfu.stjude.org>

Topic: EXERCISE AND HEART HEALTH

Why is this topic important for survivors?

Childhood cancer survivors often develop heart disease, as well as other chronic health problems, decades earlier than people who were not treated for childhood cancer. This is because the side effects of cancer treatment can “speed up” the normal effects of aging and poor health habits.

Physical activity and exercise have been shown to improve health for many chronically ill individuals, including those with heart disease. We wanted to find out if exercise can reduce the risk of serious heart disease in survivors. To answer this question we looked at the experience of Hodgkin lymphoma survivors, but we believe the results apply to all survivors.

Who and What we studied:

Responses of 1,187 Hodgkin lymphoma survivors to the Long-Term Follow-Up Study baseline and follow-up surveys were included in the study. The survivors were from 18 to 48 years old.

Questions on the surveys asked participants about their exercise habits and about whether they had experienced a serious heart problem such as a heart attack, heart failure, problems with heart rhythm, or heart valve abnormalities.

How did we measure exercise?

We looked at questionnaire responses to the following question about **vigorous** exercise:

“On how many of the past 7 days did you exercise or do sports for at least 20 minutes that made you sweat or breathe hard (for example, dancing, jogging, basketball, and so on)?”

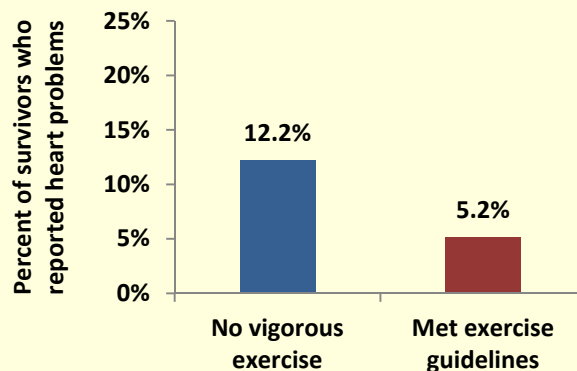
Survivors who reported they did vigorous exercise on 3 or more days in the past 7 days met the U.S. national guidelines for vigorous intensity exercise for adults.

We did not look at possible effects of mild or moderate exercise.

What we found:

- Vigorous exercise that met national guidelines was linked to a lower risk of heart problems in the future, even for survivors who had received heart-damaging treatment or had risk factors for heart disease such as high blood pressure, high cholesterol, or being overweight.
- The **more** people exercised, the **fewer** heart problems they later reported. This type of finding is called a **dose-response** relationship and is considered to be strong evidence that a conclusion is valid.

Survivors who met guidelines for vigorous exercise reported many fewer heart problems than those who did not exercise



Conclusions:

- ✓ Vigorous exercise may significantly reduce the risk of serious heart disease for survivors. In fact, the risk was decreased by 51 percent for those who met the guidelines for vigorous exercise compared to those who did not meet the guidelines.
- ✓ Doctors and nurses should ask survivors about their exercise habits and help them make a plan to increase their physical activity levels.
- ✓ Survivors should ask their doctors about physical activities that are safe for them to do.

Reference: Exercise and risk of major cardiovascular events in adult survivors of childhood Hodgkin lymphoma: a report from the Childhood Cancer Survivor Study. Jones LW, Liu Q, Armstrong GT, Ness KK, Yasui Y, Devine K, Tonorezos E, Soares-Miranda L, Sklar CA, Douglas PS, Robison LL, Oeffinger KC. *J Clin Oncol*. 2014 Nov 10;32(32):3643-50.

Exercise is Medicine

The results of this study add to the evidence that physical exercise is a powerful preventive and corrective medicine for many chronic health problems. And almost everyone (even people with severe disabilities) can benefit from increased physical activity. **Before starting any new exercise, it's important to talk to your doctor about what's safe for you and your specific condition.**

If exercise is medicine, what's the right dose? This study found that doing **vigorous** physical activity for 20 minutes or more on 3 or more days per week had a powerful positive effect. This amount of exercise cut the risk of later experiencing a serious heart problem in half for the survivors in the study!

Of course, not everyone is capable of taking part in regular vigorous activity. Fortunately, moderate intensity exercise can have the same benefit as vigorous intensity exercise—you just need to do more of it. U.S. national guidelines prescribe 75 minutes of vigorous-intensity aerobic activity OR 150 minutes of moderate-intensity aerobic activity per week. That means 30 minutes of moderate activity on 5 days of the week—and it's okay to break up the 30 minutes into three sessions of 10 minutes each.

Here's how to tell if you're doing moderate or vigorous activity: When doing moderate activity you'll be able to talk but not to sing. When doing vigorous activity you'll only be able to say a few words without stopping to catch your breath. Below are some examples of moderate and vigorous intensity activities.

Please talk to your doctor about participating in activities that are right for you!

Examples of Moderate Intensity Activities

- Walking briskly (3 miles per hour or faster, but not race-walking)
- Water aerobics
- Bicycling slower than 10 miles per hour
- Using your manual wheelchair
- Tennis (doubles)
- Ballroom dancing
- General gardening

Examples of Vigorous Intensity Activities

- Race walking, jogging, running, or wheelchair sprinting
- Swimming laps
- Tennis (singles)
- Aerobic dancing
- Bicycling 10 miles per hour or faster
- Jumping rope
- Heavy gardening (continuous digging or hoeing)
- Hiking uphill or with a heavy backpack

Study shows many survivors struggle to be physically active and become less active over time

In a recent study looking at responses to follow-up questionnaires, LTFU Study researchers found that:

- Nearly half of survivors (48 percent) did not meet national guidelines for physical activity.
- One in five reported that their physical activity level declined over the 4 year study period.
- Those whose activity levels declined were likely to be female, to be seriously overweight (obese), and to have less than a high school education.
- Survivors with muscle or bone problems such as an amputation or prosthesis were also more likely to have declining activity levels.

Since physical activity is so important for everyone, the authors emphasized the need for healthcare providers to design programs to help **all** survivors participate in exercise. They urged that survivors with physical limitations should be counseled and referred for physical therapy.

Reference: Decline in physical activity level in the Childhood Cancer Survivor Study cohort. Wilson CL, Stratton K, Leisenring WL, Oeffinger KC, Nathan PC, Wasilewski-Masker K, Hudson MM, Castellino SM, Stovall M, Armstrong GT, Brinkman TM, Krull KR, Robison LL, Ness KK. **Cancer Epidemiol Biomarkers Prev.** 2014 Aug;23(8):1619-27.

Online Resources

The U.S. **Centers for Disease Control and Prevention** website offers physical activity guidelines, tips, videos, worksheets, etc., for people of all ages and health conditions as well as other resources to help people make the most of their health.

<http://www.cdc.gov/physicalactivity/index.html>

The **National Center on Health, Physical Activity and Disability** advocates for inclusion of people with disabilities in exercise programs and offers a wide variety of resources to help them become more physically active.

<http://www.nchpad.org/>

Exercise is Medicine is a program sponsored by the American College of Sports Medicine (ACSM) and the American Medical Association (AMA). It calls for physical activity and exercise to be standard parts of disease prevention and medical treatment and urges healthcare providers to "write exercise prescriptions" by referring their patients to qualified health and fitness professionals. Additional information can be found at:

<http://www.exerciseismedicine.org/>