

LIFELine

St. Jude for Life



Spring 2013

Research MATTERS: Evaluating Heart Function

Dear St. Jude Alumni,

In this edition of LIFELine, we're happy to begin reporting research results from the St. Jude LIFE study.



The results we're featuring first concern effects of cancer treatment on the heart. Problems with the heart are some of the most common and most serious late effects of childhood cancer treatment. They can affect just about every area of life. The St. Jude LIFE Study is helping us increase our knowledge about survivors' heart health as they age through adulthood. We hope the new information we're learning from the study will help our survivors make the most of their heart health throughout their lives.

As always, thanks, participants, for making this research possible!

Melissa M. Hudson, MD
Principal Investigator,
St. Jude Lifetime Cohort Study

COMING UP!

St. Jude Survivors' Day:
September 6-7, 2013

St. Jude
LIFE
St. Jude for Life



St. Jude Children's
Research Hospital
ALSAC - Danny Thomas, Founder

WHY do we test heart function in the St. Jude LIFE Study?

Some therapies used to treat childhood cancers can affect the heart. Radiation directed at or near the heart can harm the heart muscle, the heart valves, and the vessels that supply blood to the heart. In addition, some types of chemotherapy drugs are known to be harmful to the heart's cells.

WHO do we test?

As part of the St. Jude LIFE Study evaluation, we test the heart function of survivors whose treatment included radiation therapy involving any part of the heart, or chemotherapy drugs known as anthracyclines (these include Daunorubicin, Doxorubicin, Epirubicin, and Idarubicin).

Survivors who received these treatments should have their heart function tested on a regular basis. Specific factors, such as the dose received and the individual's age when the treatment was given, are used to decide how often to test the heart.

HOW do we test heart function?

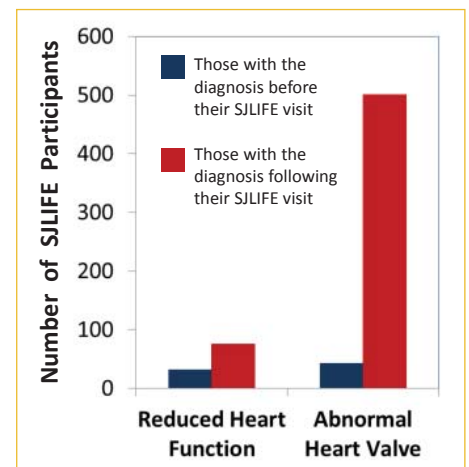
We use two simple tests: an echocardiogram (which uses sound waves to create a moving picture of the heart) and an electrocardiogram (ECG), a non-invasive test that records the heart's electrical activity.

WHAT have we found among participants in the St. Jude LIFE Study?

We found that 87.5 percent of study participants who had received therapies that can affect the heart have normal heart muscle function. However, some participants did have abnormal findings:

- We found problems with the heart's ability to pump blood among participants who had been treated with anthracyclines AND/OR radiation therapy that involved the heart:*
 - About 1 in 8 showed a reduced ability of the heart to pump blood.
 - About half of these were mildly affected and half were severely affected.
 - For 3 in 4 of these participants, heart dysfunction was detected for the first time as a result of the study visit.
 - About 1 in 9 had an abnormality in the electrical system that controls the heart beat.
 - 7 percent of these had a serious abnormal pattern (arrhythmia) in their heart beat.
 - Most of the electrical abnormalities and arrhythmias were first detected as a result of the study visit.
- We found problems with the heart's valves among those who had been treated with radiation:*
 - More than half of participants who had received radiation had an abnormal heart valve. However, almost 90 percent of these had only mild abnormalities.
 - About 90 percent of the valve problems were detected as a result of the study visit.
- We found that heart problems increase with age:*

Older survivors were found to have more heart abnormalities than younger survivors.



Many previously undiagnosed heart abnormalities were discovered among survivors who had heart screening during the study evaluation.

Your heart, your life: Stay informed, stay healthy

The results from the St. Jude LIFE Study show that most survivors, even those who were treated with anthracyclines or radiation to the heart, have normal heart muscle function. That's great news! However, heart problems may happen many years after cancer treatment. And survivors may experience problems with heart disease at younger ages than is usual for people who did not undergo treatment for childhood cancer. Fortunately, there are steps you can take to protect your health.

Inform your doctor—and yourself. One of the most important steps you can take is to make sure both you and your healthcare providers know your treatment history. With help from St. Jude researchers, the Children's Oncology Group has developed an online tool for survivors and their

WHERE is future research headed?

Thanks to St. Jude LIFE Study participants we've learned a lot about the effects of cancer treatment on the heart. Now, we're focusing on exciting new research in areas such as:

- How heart function changes over time
- How to **predict** who is likely to be at risk of heart problems
- Ways to **prevent** heart abnormalities among survivors
- Strategies to **detect** heart problems earlier
- Ways to best **treat** abnormalities of the heart
- How lifestyle factors such as tobacco, diet and exercise affect heart function of survivors
- How problems with the heart might influence brain function

healthcare providers—The Survivorship Guidelines. The Guidelines contain information for healthcare providers about the recommended medical screenings survivors should receive, based on their treatment history. "Health Links" geared to survivors themselves are also available at the online site. Please share this important resource with your doctor. The web address is:

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

Practice a heart-healthy lifestyle! As people age, their risk of certain types of heart disease such as heart attacks

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and hardening of the arteries increases, no matter what treatment they received. You can help protect your heart's health for life by:

- Not smoking (or quitting if you currently smoke)
- Staying at a healthy body weight
- Limiting the fat in your diet to no more than 30 percent of calories
- Exercising regularly for at least 30 minutes on most days of the week.

Aerobic exercise, such as running or brisk walking, is generally safe and healthy for the heart. Other types of exercise, for example, heavy weight-lifting or intense sports, might not be recommended because they might overstress the heart. Be sure to talk to your doctor about exercise before you begin a new activity.

Participate in research. Would you like to help us learn more about the effects of cancer treatments on the heart? We're now enrolling participants in a new study of heart health. This study will help us understand:

- Which heart tests are most important for survivors to receive to make sure we're getting the best information about their heart health
- How heart function changes throughout life.

You may be eligible to participate if you are a St. Jude LIFE participant who received anthracycline chemotherapy and/or radiation therapy directed at the heart, you don't have certain heart conditions, and you're not currently pregnant (or recently pregnant). Or you might be eligible for selection as a survivor control.



Dr. Greg Armstrong leads the new study

If you'd like to learn more about this study, please contact us at:

(866) 278-5833

sjlife@stjude.org

Research really does matter! It's crucial to the effort to enable survivors lead active and healthy lives. Thanks, again, participants, for being our research partners!

ONLINE RESOURCES:

www.americanheart.org
www.health.gov

*Physical activity and dietary recommendations from the
US Dept of Health and Human Services*