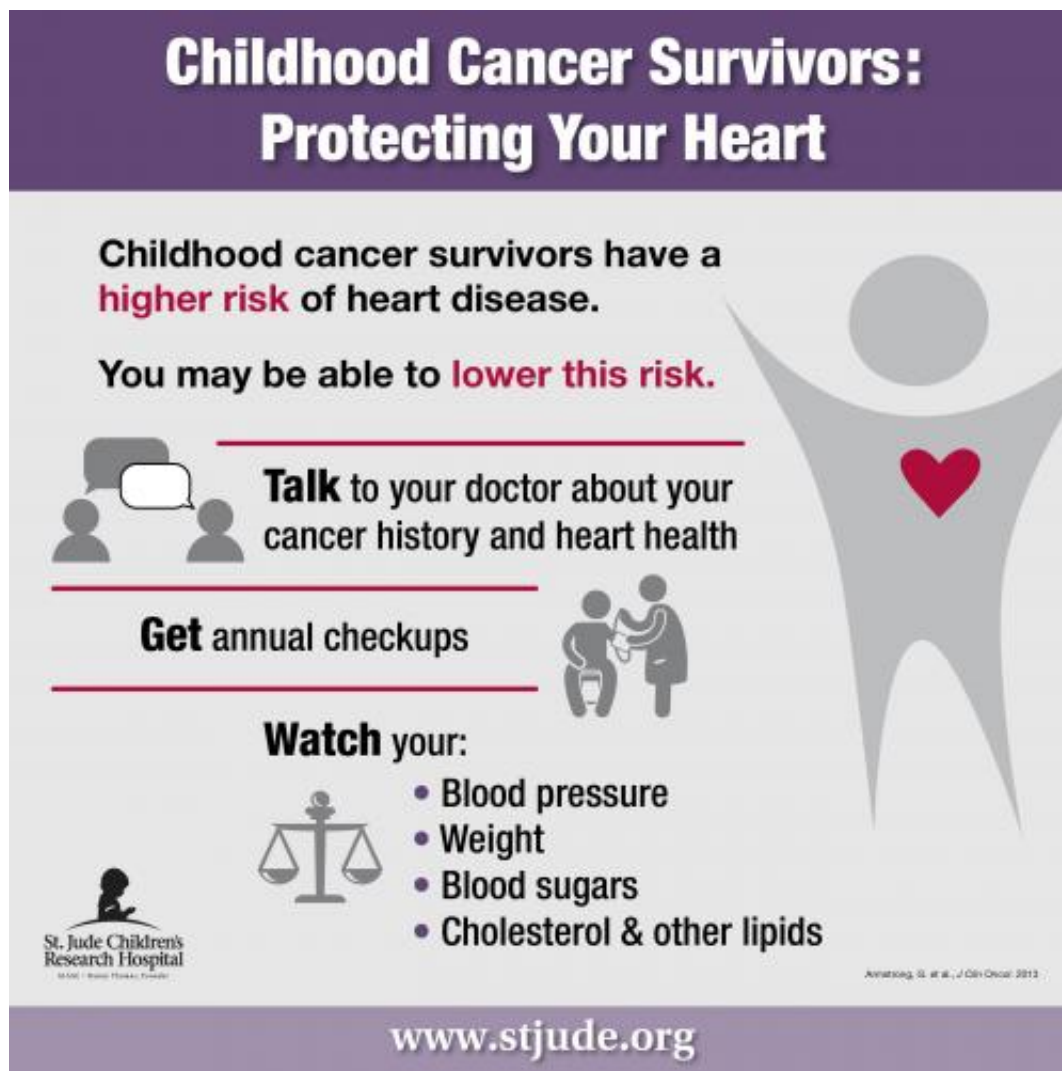


Preventable risk factors pose serious threat to heart health of childhood cancer survivors


October 10 2013




**Childhood Cancer Survivors:
Protecting Your Heart**

Childhood cancer survivors have a **higher risk** of heart disease.


You may be able to **lower this risk.**


 **Talk** to your doctor about your cancer history and heart health

Get annual checkups 

Watch your:

- Blood pressure
- Weight
- Blood sugars
- Cholesterol & other lipids



 St. Jude Children's Research Hospital
3662 | 6600 | 7580 | 8600

Arvatkov, et al., J Clin Oncol 2013

www.stjude.org

Hypertension, diabetes, obesity and high blood lipid levels significantly increase the risk that childhood cancer survivors will develop serious cardiovascular disease as adults. Credit: Betsy Williford of St. Jude Biomedical Communications

For childhood cancer survivors, risk factors associated with lifestyle, particularly hypertension, dramatically increase the likelihood of developing serious heart problems as adults, according to a national study led by St. Jude Children's Research Hospital. The findings appear in the current issue of the *Journal of Clinical Oncology*.

The Childhood Cancer Survivor Study (CCSS) is one of the first to focus on how hypertension, diabetes, obesity and elevated blood lipids contribute to cardiovascular disease in childhood cancer [survivors](#). The research concentrated on [risk factors](#) that can often be modified with diet, exercise and other lifestyle changes. The federally funded CCSS follows survivors of childhood cancer treated at 26 medical centers in the U.S. and Canada. St. Jude is its coordinating center.

The risk was greatest for survivors whose cancer treatment had included therapies associated with [heart](#) damage. The findings suggest that risk factors linked to lifestyle, particularly hypertension, intensify the impact of those childhood cancer treatments and accelerate development of [heart disease](#).

The findings raise hope that prevention or treatment of such risk factors might help reduce heart-related death and disability among the nation's growing population of childhood cancer survivors. For survivors, treatment-related heart disease is a leading cause of non-cancer death and disability.

The results reinforce the importance of survivors receiving annual medical screenings to check blood pressure, weight, cholesterol and other health indicators, said the study's first and corresponding author Greg Armstrong, M.D., an associate member of the St. Jude Department of Epidemiology and Cancer Control. Screenings have a track record of

reducing heart disease in the general population and are recommended for childhood cancer survivors. "For doctors who are caring for survivors, the key message from this study is that aggressive management of hypertension is especially important for this population," Armstrong said.

Nationwide, there are an estimated 395,000 survivors of childhood cancer. With overall pediatric cancer survival rates now 80 percent, the number of survivors will continue to grow.

The study included 10,724 [childhood cancer survivors](#), half younger than 34 years old and 3,159 siblings whose average age was 36 and who had not been diagnosed with childhood cancer. The survivors were all at least five years from their cancer diagnosis and half had survived for more than 25 years.

While similar percentages of survivors and siblings reported at least two preventable risk factors, by age 45 survivors were far more likely than the siblings to report severe, life threatening or fatal [heart problems](#). For example, 5.3 percent of survivors, but 0.9 percent of siblings, reported a diagnosis of coronary artery disease and, 4.8 percent of survivors, but just 0.3 percent of siblings, reported suffering from heart failure.

The difference was even more dramatic when investigators focused on survivors whose cancer treatment included either chest irradiation or a class of chemotherapy drugs known as anthracyclines. Both are associated with an increased risk of serious heart problems. While treatments have changed since survivors in this study battled cancer in the 1970s and mid-1980s, anthracyclines and chest irradiation still play essential roles in [childhood cancer](#) treatments.

Such treatment-related risk left survivors with normal blood pressure at a five-fold increased risk of coronary artery disease. Researchers found

survivors with the same treatment history but who had also developed hypertension were at a 37-fold increased risk. Researchers found similarly dramatic differences in the likelihood of heart failure, heart valve disease or arrhythmia depending on whether the at-risk survivors reported treatable risk factors in addition to their cancer-treatment-related risk.

"For survivors whose cancer treatment included cardio-toxic therapy, we found that preventable factors, particularly hypertension, resulted in a risk beyond what is likely from a simple additive effect," Armstrong said. Having both treatment-associated risk and [hypertension](#) resulted in double-digit excess [risk](#) of [coronary artery disease](#), [heart failure](#) and other serious heart problems.

Provided by St. Jude Children's Research Hospital

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