

## **Increasing cardiovascular screening in at-risk adult survivors of pediatric malignancies: A randomized controlled trial.**

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**Background:** Adults treated with anthracycline chemotherapy and/or chest radiation for pediatric malignancies are at increased risk of cardiomyopathy. Left ventricular function (LVF) screening provides opportunities for early detection and intervention that may preserve heart function. The objective of the ECHOS study was to determine whether the addition of advanced practice nurse (APN) telephone counseling to a print survivorship care plan (SCP) significantly increases the proportion of at-risk survivors who complete cardiomyopathy screening. **Methods:** Survivors currently age > 25 years participating in the Childhood Cancer Survivor Study who received cardiotoxic therapy and reported no history of cardiac screening during the past 5 years were eligible for enrollment. The 472 participants (mean age 40.1, range 25.0-59.0; 53.3% females) were randomized to: 1) standard care consisting of SCP summarizing cancer treatment and cardiac health screening recommendations (n=234) or 2) standard care plus two APN telephone counseling sessions (n=238). The primary outcome, completion of a LVF assessment within 1 year, was validated by medical records and compared between the two arms using adjusted relative risks (RR) with 95% confidence intervals (CI). **Results:** Participants in the standard and APN counseling groups did not differ by demographic or clinical characteristics. At the time of 1-year follow-up (411 participants completing the study), 107/205 (52.2%) of the survivors in the APN group completed screening compared to 46/206 (22.3%) in the non-APN group ( $p < 0.0001$ ). With adjustment for gender, age (<30, 30+) and Children's Oncology Group recommended screening frequency group (annual, 2 years, 5 years), survivors in the APN-group were more than two times more likely than the control group to have the recommended cardiovascular screening (RR 2.31; 95% CI: 1.74-3.07). **Conclusions:** The addition of telephone counseling to a SCP with cardiac health screening recommendations increases cardiac screening in at-risk survivors. These strategies can be adapted to support other types of health-protective screening in other at-risk survivor populations.