

Sun Protection Behavior in a Cohort of Adult Survivors of Childhood and Adolescent Cancer. A Report from the Childhood Cancer Survivor Study (CCSS)

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Background: Previous CCSS research has shown that skin cancer is associated with exposure to therapeutic radiation (RT), but sun protection behavior in survivors has not been described.

Methods: The CCSS is a retrospective cohort study designed to investigate late effects among 5-year survivors of children and adolescents cancer diagnosed between 1970-1986. Biannual newsletters serve as the primary educational tool; articles addressing risk factors for skin cancer were presented in 1999 and 2001. Data regarding current sun protection behavior were collected on 9,262 survivors and 2,775 sibling controls in 2003. Median age at follow-up was 31 years (range:17-54).

Results: In CCSS, skin cancer accounts for 41% of all confirmed subsequent cancers. To date, 457 subjects have reported 1,157 pathology confirmed occurrences of skin cancer. Of these, 95% were basal cell carcinoma, 3% squamous cell carcinoma, and 2% melanoma. Compared to siblings, survivors showed no difference in sunscreen use (regular vs. rarely: RR=1.01, 95%CI=0.98-1.04), but a decrease in sunbathing (none vs. any: RR=0.92, 95%CI=0.89-0.95) and artificial tanning (none vs. any: RR=0.76, 95%CI=0.70-0.83) in previous year. Compared to survivors without RT, survivors with RT exposure showed slightly increased sunscreen use (RR=1.06, 95%CI=1.03-1.10), and less sunbathing (RR=0.89, 95%CI=0.86-0.92) or artificial tanning (RR=0.62, 95%CI=0.56-0.69). Multivariable analysis was conducted to identify predictors of sunscreen use in survivors that are recognized in the general population. Statistically significant predictors for regular sunscreen use included: female (RR=1.18, 95%CI=1.16-1.22); sun sensitivity [never tan vs. sometimes (RR=0.94, 95%CI=0.91-0.97), usually (RR=0.83, 95% CI=0.8-0.86), always tan (RR=0.58, 95%CI=0.55-0.62)]; and no previous skin examination for cancer (RR=1.20, 95%CI=1.12-1.23).

Conclusion: Little difference was seen in sun protection behaviors between siblings and survivors; and in high-risk survivors with RT. Predictors of sun protection behavior were similar to those in the general population. More effective tailored risk communications interventions are needed to reach this vulnerable population.

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