

**NONMELANOMA SKIN CANCER (NMSC) IN SURVIVORS OF CHILDHOOD  
AND ADOLESCENT CANCER: A REPORT FROM THE CHILDHOOD  
CANCER SURVIVOR STUDY (CCSS)**

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**BACKGROUND:** Increased risk of NMSC has been observed among radiation-exposed populations. Little data are available on NMSC in childhood cancer survivors.

**METHODS:** The CCSS is a multi-institutional retrospective cohort study of 5+ year survivors of childhood and adolescent cancer diagnosed between 1970-1986 before 21 years of age. Self-reported occurrence of subsequent cancers, including NMSC, undergoes pathologic confirmation.

**RESULTS:** Among the 13,134 eligible CCSS participants, 213 have reported basal cell (BCC) or squamous cell carcinoma (SCC) of the skin, 21% had multiple occurrences. Of the 213 cases, 96% were BCC, 54% occurred in males. NMSC occurred in children as young as 7 years of age, with nearly half of cases less than 30 years of age. Location of NMSC included head/neck (44%), chest (25%), extremity (10%), back (8%), abdomen (3%), and location not otherwise specified for 11%. Ninety-percent of NMSC cases were previously treated with radiation therapy (RT). Of the 169 cases with known RT field information and NMSC location, 89% occurred within the RT field. The age-adjusted relative rates of NMSC by diagnosis, years since diagnosis, and history of radiation therapy are provided below (Table); no difference by sex or age at diagnosis was observed.

**CONCLUSIONS:** While NMSC is generally associated with a low mortality rate, it is an important public health issue. At this time it is unclear what impact nonmelanoma skin cancer will have among childhood cancer survivors. Those treated with radiation therapy, survivors of Hodgkin's disease, and those furthest from treatment appear to be at highest risk. Additional follow-up, evaluation and intervention of this population are recommended.

<b>Original Diagnosis</b>	<b>RR of NMSC</b>	<b>95% Confidence Limits</b>
<b>Hodgkin's disease</b>	<b>7.8</b>	<b>(3.6,16.7)</b>
<b>Leukemia</b>	<b>4.7</b>	<b>(2.1,10.4)</b>
<b>CNS tumors</b>	<b>3.7</b>	<b>(1.6,8.8)</b>
<b>Non-Hodgkin's lymphoma</b>	<b>2.9</b>	<b>(1.1,7.2)</b>
<b>Soft tissue sarcoma</b>	<b>2.2</b>	<b>(0.9,5.7)</b>
<b>Kidney tumors</b>	<b>2.0</b>	<b>(0.6,7.0)</b>
<b>Neuroblastoma</b>	<b>0.8</b>	<b>(0.1,6.2)</b>
<b>Bone cancer</b>	<b>1.0</b>	<b>(referent)</b>

<b>Years Since Diagnosis</b>	<b>RR of NMSC</b>	<b>95% Confidence Limits</b>
<b>5 - 9</b>	<b>1.0</b>	<b>(referent)</b>
<b>10 - 14</b>	<b>2.2</b>	<b>(1.1,4.4)</b>
<b>15 - 19</b>	<b>2.7</b>	<b>(1.3,5.3)</b>
<b>20 - 24</b>	<b>2.5</b>	<b>(1.2,5.1)</b>
<b>25 - 29</b>	<b>3.2</b>	<b>(1.4,7.0)</b>

<b>Radiation Therapy</b>	<b>RR of NMSC</b>	<b>95% Confidence Limits</b>
<b>Yes</b>	<b>6.3</b>	<b>(3.5,11.3)</b>
<b>No</b>	<b>1.0</b>	<b>(referent)</b>

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