PULMONARY COMPLICATIONS IN SURVIVORS OF CHILDHOOD AND ADOLESCENT CANCER:A REPORT FROM THE CHILDHOOD CANCER SURVIVOR STUDY (CCSS). A Mertens, Y Yasui, Y Liu, M Stovall, R Hutchinson, C Sklar, L Robison. Univ. of Minnesota, Minneapolis MN; Fred Hutchinson Cancer Research Center, Seattle WA; MD Anderson Cancer Center, Houston TX; Univ. of Michigan, Ann Arbor MI; Memorial Sloan Kettering Cancer Center, New York, NY.

CCSS is a resource designed to investigate long-term effects among five-year survivors of childhood and adolescent cancer. Using information obtained from questionnaires and medical records on 12,390 subjects with leukemia, lymphoma, brain tumors, neuroblastoma, Wilms' tumor, bone tumors and soft tissue sarcoma we evaluated the rate of first occurrence of selected pulmonary conditions (PC) during three time periods: during therapy (Period-1), end of therapy to 5 years post diagnosis (Period-2) and 5+ years post diagnosis (Period-3). Multivariate analyses were used to

		First occurrence (Rates/ 1000 person years)		
Condition	Total # (%)	Period-1	Period-2	Period-3
Lung fibrosis	383 (3.1%)	4.8	2.2	0.9
Supplemental oxygen	1191 (9.6%)	12.6	3.0	4.2
Recurrent pneumonia	156 (1.3%)	1.1	0.5	0.7
Dyspnea, chronic cough	917 (7.4%)	6.6	3.3	4.0
Pleurisy	363 (2.9%)	1.6	1.2	1.9

determine the relative risk (RR) and 95% Confidence Intervals (CI) associated with PC and exposure to radiation therapy to the chest (RTc), Bleomycin (Bleo) , Cyclophosphamide (CPM), Busulfan (Bu), CCNU, and/or BCNU. During Period-3, statistically significant associations were present for: lung fibrosis and RTc (RR =4.3, 95% CI=2.9-6.6); supplemental oxygen and RTc (RR=1.8, CI=1.5-2.2), BCNU (RR=1.4, CI=1.0-2.0), Bleo (RR=1.7, CI=1.2-2.3), Bu (RR=3.2, CI=1.5-7.0), CCNU (RR=2.1, CI=1.4-2.9), CPM (RR=1.5, CI=1.3-1.9; recurrent pneumonia and RTc (RR=2.2, CI=1.4-3.5), CPM (RR=1.6, CI=1.0-2.5); dyspnea, chronic cough and RTc (RR=2.0, 95% CI=1.6-2.4), Bleo (RR=1.9, CI=1.3-2.6), CPM (RR=1.3, CI=1.1-1.6); pleurisy and RTc (RR=1.4, CI=1.1-2.0), Bu (RR=5.1, CI=1.2-21.0). In Period 3, RTc was associated with a 5.3% cumulative incidence of lung fibrosis at 20

years. PC continue to manifest 5+ years from diagnosis and treatment-related factors are important determinants of risk. Continued follow-up of childhood cancer survivors is needed to evaluate the impact of PC on quality of life.