

**Fatigue and Sleep Disturbance in Survivors of Childhood Cancer: A Report from the Childhood Cancer Survivor Study (CCSS).** Daniel A. Mulrooney, Ann C.

Mertens, Joseph P. Neglia, Daniel M.Green, Lonnie Zeltzer, Leslie L. Robison; University of Minnesota, Minneapolis, MN; Roswell Park Cancer Inst., Buffalo, NY; UCLA, Los Angeles, CA

**Purpose:** Fatigue is recognized as a late effect of cancer therapy, persisting months to years after treatment. The prevalence of fatigue and/or sleep disturbance among long-term survivors of pediatric malignancies is unknown.

**Methods:** We assessed the frequency of self-reported fatigue and sleep disturbance within the CCSS cohort (a multi-institutional retrospective cohort of cancer survivors diagnosed before age 21, between 1970-1986 and who survived 5+ years from diagnosis).

The highest 2 levels from a 5-point Likert scale of self-reported fatigue and sleep problems within the past 30 days were analyzed.

**Results:** Data were available from 6890 (44.6% male, 55.4% female) survivors. Mean age at cancer diagnosis was 7.5 yrs and was 28.3 yrs. at follow up. Prevalence and odds ratios of fatigue or sleep disturbance for each diagnosis compared to leukemia as the referent group are shown below.

Diagnosis	Survivors (%)	Fatigue		Sleep Disturbance	
		(%)	OR (95% CI)	(%)	OR (95% CI)
Leukemia	2372 (34.4%)	14.9	--(referent)--	12.0	--(referent)--
CNS	864 (12.5%)	16.8	1.15 (0.93-1.42)	10.4	0.85 (0.66-1.09)
HD	883 (12.8)	19.5	1.38 (1.13-1.69)*	15.5	1.34 (1.08-1.68)*
NHL	491 (7.1%)	16.0	1.09 (0.84-1.43)	10.4	0.85 (0.62-1.16)
Kidney	650 (9.4%)	12.8	0.83 (0.65-1.08)	9.5	0.77 (0.58-1.03)
Neuroblastoma	503 (7.3%)	10.8	0.69 (0.52 0.93)*	8.2	0.65 (0.46-0.92)*
Soft Tissue Sarcoma	602 (8.7%)	19.4	1.38 (1.09-1.73)*	16.3	1.42 (1.11-1.83)*
Bone	525 (7.6%)	18.1	1.26 (0.98-1.62)	17.3	1.54 (1.19-1.99)*
Total	6890	16.0	*p<0.05	12.4	*p<0.05

**Conclusion:** Fatigue and sleep disturbance appears to be more likely in survivors of HD and soft tissue sarcomas compared to leukemia survivors, while less so in survivors of neuroblastoma and kidney tumors. Sleep disturbance may also be a late effect of treatment for bone cancer. Further analysis is ongoing.