

**CLASSIFICATION OF HEART FAILURE, ISCHEMIC HEART DISEASE, AND STROKE RISK GROUPS
WITHIN THE CCSS COHORT OVER TIME BASED ON THE STANDARD MODEL WITH AGE***

	Risk score	Risk group	Cumulative incidences, % (SD)		vs. Siblings		vs. Group above [†]	
			10-year	Age 50 years	Rate ratio (95%CI)	P-value [‡]	Rate ratio (95%CI)	P-value [‡]
Heart failure								
Age 20y	-	Sibling	0.03 (0.03)	0.6 (0.3)	1.00 (ref)	--	--	--
	<5	Moderate	0.4 (0.1)	1.4 (0.3)	4.41 (2.07-9.41)	<0.001	1.00 (ref)	--
	≥5	High	2.7 (0.3)	11.8 (2.1)	30.89 (14.99-63.64)	<0.001	7.00 (4.89-10.04)	<0.001
Age 25y	-	Sibling	0.2 (0.1)	0.6 (0.3)	1.00 (ref)	--	-	--
	<5	Moderate	0.5 (0.1)	2.4 (0.5)	4.62 (2.19-9.73)	<0.001	1.00 (ref)	--
	≥5	High	2.8 (0.3)	11.2 (1.6)	21.75 (10.60-44.63)	<0.001	4.71 (3.41-6.50)	<0.001
Age 30y	-	Sibling	0.2 (0.1)	0.5 (0.3)	1.00 (ref)	--	--	--
	<5	Moderate	0.8 (0.2)	2.2 (0.5)	4.19 (1.87-9.40)	<0.001	1.00 (ref)	--
	≥5	High	3.2 (0.5)	10.2 (1.5)	17.74 (8.12-38.75)	<0.001	4.24 (2.88-6.23)	<0.001
Age 35y	-	Sibling	0.1 (0.1)	0.4 (0.3)	1.00 (ref)	--	--	--
	<5	Moderate	1.3 (0.3)	1.9 (0.5)	7.09 (2.15-23.42)	<0.001	1.00 (ref)	--
	≥5	High	6.3 (1.0)	9.7 (1.7)	31.12 (9.67-100.16)	<0.001	4.39 (2.72-7.08)	<0.001
Ischemic heart disease								
Age 20y	-	Sibling	0.03 (0.03)	1.0 (0.4)	1.00 (ref)	--	--	--
	<3	Moderate	0.3 (0.06)	1.6 (0.4)	3.09 (1.63-5.85)	<0.001	1.00 (ref)	--
	≥3	High	1.4 (0.3)	8.9 (2.1)	13.39 (7.09-25.28)	<0.001	4.34 (2.89-6.52)	<0.001
Age 25y	-	Sibling	0.2 (0.1)	1.0 (0.4)	1.00 (ref)	--	--	--
	<3	Moderate	0.4 (0.1)	1.4 (0.4)	2.13 (1.11-4.10)	0.02	1.00 (ref)	--
	≥3	High	2.0 (0.3)	10.5 (1.2)	12.97 (7.17-23.47)	<0.001	6.09 (4.20-8.85)	<0.001
Age 30y	-	Sibling	0.3 (0.1)	0.9 (0.4)	1.00 (ref)	--	--	--
	<4	Moderate	0.5 (0.1)	1.2 (0.3)	1.68 (0.82-3.46)	0.16	1.00 (ref)	--
	≥4	High	3.4 (0.4)	11.1 (1.2)	12.46 (6.70-23.15)	<0.001	7.40 (4.74-11.56) [‡]	<0.001
Age 35y	-	Sibling	0.5 (0.2)	0.8 (0.4)	1.00 (ref)	--	--	--
	<4	Moderate	0.7 (0.3)	0.9 (0.4)	1.77 (0.66-4.76)	0.26	1.00 (ref)	--
	≥4	High	7.0 (0.8)	10.4 (1.3)	17.79 (7.80-40.48)	<0.001	10.06 (5.38-18.80)	<0.001
Stroke								
Age 20y	-	Sibling	0.1 (0.04)	0.9 (0.3)	1.00 (ref)	--	--	--
	<4	Moderate	0.4 (0.07)	2.6 (0.6)	3.14 (1.75-5.66)	<0.001	1.00 (ref)	--
	≥4	High	4.1 (0.6)	18.3 (3.7)	31.31 (17.73-55.27)	<0.001	9.96 (7.20-13.77)	<0.001
Age 25y	-	Sibling	0.3 (0.1)	0.9 (0.3)	1.00 (ref)	--	--	--
	<4	Moderate	0.7 (0.1)	2.7 (0.4)	3.36 (1.83-6.16)	<0.001	1.00 (ref)	--
	≥4	High	4.8 (0.8)	15.0 (2.8)	24.46 (13.19-45.35)	<0.001	7.28 (5.24-10.10)	<0.001
Age 30y	-	Sibling	0.3 (0.1)	0.9 (0.3)	1.00 (ref)	--	--	--
	<4	Moderate	0.8 (0.1)	2.8 (0.5)	2.98 (1.57-5.68)	<0.001	1.00 (ref)	--
	≥4	High	5.9 (1.0)	12.1 (2.3)	18.01 (9.30-34.86)	<0.001	6.04 (4.14-8.81)	<0.001
Age 35y	-	Sibling	0.3 (0.2)	0.6 (0.3)	1.00 (ref)	--	--	--
	<5	Moderate	1.3 (0.3)	2.2 (0.5)	4.09 (1.60-10.48)	0.003	1.00 (ref)	--
	≥5	High	6.0 (1.3)	10.2 (2.5)	22.54 (8.75-58.05)	<0.001	5.51 (3.32-9.17)	<0.001

*Data taken from "Traditional cardiovascular risk factors and individual prediction of cardiovascular events in childhood cancer survivors" (*J Natl Cancer Inst* 2019, PMID 31161223).
When all information is available, the online risk calculator defaults to the output shown in this table. For estimates for individuals 5-years from cancer diagnosis (vs. currently older aged), or who lack information on diabetes, dyslipidemia, or hypertension status, output from the table below is available.

[†]Comparisons are vs. the immediate preceding group (e.g. high vs. moderate).

[‡]Two-sided Wald test.

**CLASSIFICATION OF HEART FAILURE, ISCHEMIC HEART DISEASE, AND STROKE RISK GROUPS
WITHIN THE CCSS COHORT, AT 5-YEARS FROM CANCER DIAGNOSIS***

	Risk score	Risk group	Cumulative incidence at age 50 years, % (95% confidence interval [CI])	Rate ratios (95% CI) compared with siblings without cancer	Rate ratios (95% CI) compared with the preceding group (e.g., moderate vs. low risk; high vs. moderate risk)
Heart failure					
Siblings	-	-	0.8 (0.2-1.5)	1.0 (referent)	-
Simple model	<3	Low	0.8 (0.1-1.4)	1.6 (0.7-3.4)	-
	3-4	Moderate	9.1 (7.3-11.0)	14.6 (8.0-26.4)	9.2 (5.4-15.6)
Standard model	≥5	High	13.7 (7.9-19.5)	33.0 (18.0-60.7)	2.3 (1.7-3.0)
	<3	Low	1.0 (0.3-1.7)	1.8 (0.9-3.8)	-
	3-5 [†]	Moderate	9.2 (7.1-11.3)	12.1 (6.6-22.0)	6.6 (4.0-10.8)
Heart model	≥6	High	12.4 (9.3-15.6)	41.5 (22.7-75.9)	3.4 (2.6-4.5)
	<3	Low	0.7 (0.1-1.3)	1.6 (0.7-3.3)	-
	3-5 [†]	Moderate	8.8 (6.6-10.9)	11.3 (6.2-20.8)	7.3 (4.2-12.5)
	6-8	High	13.1 (9.1-17.0)	32.8 (17.9-60.1)	2.9 (2.2-3.8)
	≥9	Very high	23.7 (14.5-32.9)	118.1 (58.8-236.9)	3.6 (2.3-5.6)
Ischemic heart disease					
Siblings	-	-	1.2 (0.4-2.0)	1.0 (referent)	-
Simple model	<3	Low	2.3 (1.5-3.1)	2.3 (1.5-3.5)	-
	≥3	Moderate/High	14.4 (11.7-17.2)	10.1 (6.7-15.2)	4.4 (3.4-5.8)
Standard model	<2	Low	2.3 (1.5-3.1)	2.3 (1.5-3.5)	-
	2-4	Moderate	11.9 (8.6-15.3)	7.2 (4.7-11.2)	3.2 (2.3-4.3)
	5	High	19.9 (15.0-24.7)	17.8 (11.4-27.6)	2.5 (1.8-3.3)
Stroke					
Siblings	-	-	1.1 (0.4-1.7)	1.0 (referent)	-
Simple model	<3	Low	4.0 (2.8-5.3)	4.7 (2.8-8.0)	-
	≥3	Moderate/High	10.4 (7.3-13.4)	14.6 (8.7-24.6)	3.1 (2.4-4.0)
Standard model	<1	Low	2.4 (1.5-3.4)	4.2 (2.4-7.3)	-
	1-3 [§]	Moderate	6.9 (4.8-8.9)	8.8 (5.0-15.5)	2.1 (1.5-2.9)
	≥4	High	19.9 (13.1-26.6)	37.2 (21.5-64.6)	4.2 (3.2-5.7)

*Data taken from the CCSS papers, "Individual prediction of heart failure among childhood cancer survivors" (*J Clin Oncol* 2015, PMID 25287823) and "Prediction of ischemic heart disease and stroke among childhood cancer survivors" (*J Clin Oncol* 2018, PMID 29095680). Note that the heart failure estimates were updated from age 40 to age 50 in the 2018 publication.

[†]Survivors with total congestive heart failure risk score = 3 under the standard and the heart models without both anthracycline and chest/heart radiation exposures are classified as low risk.

[§]Survivors with total stroke risk score = 1 under the standard model due to chemotherapy alone and no cranial radiation are classified as low risk.