

# **Association of Physical Activity with Overall Mortality among Long-Term Testicular Cancer Survivors: A longitudinal study**

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**Table S1. Responders of NTCP with valid physical activity response at Survey 1 ( $n = 1392$ ) versus non-responders of the NTCP ( $n = 376$ ) versus responders with missing physical activity response ( $n = 45$ )**

	Participants		Non-participants	
	Responders with valid PA response at S1 $n = 1392$	Non-responders of the NTCP $n = 376$	Responders with missing PA response $n = 45$	
<b>Age at S1</b> , mean (SD), years	44.6 (10.2)	45.6 (10.5)	48.3* (12.9)	
<b>Partnership<sup>a</sup></b> , $n$ (%)				
Paired	1062 (77)		34 (83)	
Unpaired	326 (24)		7 (17)	
<b>Education level<sup>b</sup></b> , $n$ (%)				
High	534 (39)		10 (26)	
Low	851 (61)		28 (74)	
<b>Work force participation<sup>c</sup></b> , $n$ (%)				
Yes	1244 (90)		32 (78)	
No	143 (10)		9* (22)	
<b>Age at diagnosis</b> , mean (SD), years	33.3 (9.6)	32.4 (9.7)	36.9* (12.6)	
<b>Time since orch.</b> , mean (SD), years	11.9 (4.2)	12.0 (4.3)	11.7 (3.9)	
<b>Histology</b> , $n$ (%)				
Seminoma	697 (50)	185 (49)	22 (49)	
Non-seminoma	695 (50)	191 (51)	23 (51)	
<b>Initial Extent of the disease</b> , $n$ (%)				
Metastatic (Stage IMk – IV)	410 (30)	126 (34)	18 (40)	
No metastases (Stage I)	982 (71)	250 (67)	27 (60)	
<b>Treatment groups</b> , $n$ (%)				
SURGERY-group	265 (19)	80 (21)	7 (16)	
RAD-group	596 (43)	153 (41)	16 (36)	
CHEMO-group	531 (38)	143 (38)	22 (49)	
<b>≥ 1 Major somatic co-morbidity<sup>d</sup></b> , $n$ (%)				
Yes	128 (9)		8 (18)	
No	1264 (91)		37 (82)	
<b>BMI</b> , mean (SD), kg/m <sup>2</sup>	26.5 (3.9)		26.7 (3.5)	
<b>Daily smoker<sup>e</sup></b> , $n$ (%)				
Yes	488 (35)		18 (43)	
No	889 (65)		24 (57)	
<b>Hazardous alcohol use<sup>f</sup></b> , $n$ (%)				
Yes	242 (19)		6 (19)	
No	1035 (81)		25 (81)	

**Abbreviations:** NTCP: Norwegian Testicular Cancer Project, PA: Physical Activity,  $n$ : Number, SD: Standard deviation, RAD: Radiotherapy, CHEMO: Chemotherapy, BMI: Body mass index

\*significant difference ( $p < 0.05$ ) between responding participants ( $n = 1392$ ) and responders with missing physical activity response to both light to moderate and vigorous physical activity ( $n = 45$ ). Numbers may not add up to 1392 because of missing data and percentages may not be 100 because of rounding.

<sup>a</sup> paired; married or cohabitant / unpaired; never married, widower, separated or divorced

<sup>b</sup> high education level; college or university / low education level; high-school or less

<sup>c</sup> in work force participation; working full- or part time, being on sick-leave, being a student, being old-age pensioner / not in work force participation; unemployed, temporarily laid off, rehabilitation or on disability benefits

<sup>d</sup> major somatic comorbidity; have or ever have had myocardial infarction, angina pectoris, stroke/cerebral hemorrhage, diabetes or history of cancer ( $\geq 1$ /none).

<sup>e</sup> daily smoker; currently smoking cigarettes, cigars/cigarillos and/or pipe on a daily basis / not daily smoker; social smokers, never been smoking on a daily basis or smoked previously

<sup>f</sup> According to Aaland et al. 1990

**Table S2: Years a) from orchiectomy to Survey 1 and to Survey 2, b) between Survey 1 and Survey 2, c) from Survey 1 and from Survey 2 to End of Study and d) from orchiectomy to End of Study for the participants**

<b>Years from orchiectomy to S1 (<i>n</i> = 1392)</b>	
Mean (SD)	11.9 (4.2)
Median (Range)	11.4 (4.3 – 21.7)
<b>Years from orchiectomy to S2 (<i>n</i> = 1011)</b>	
Mean (SD)	19.7 (4.2)
Median (Range)	19.1 (13.1 – 28.2)
<b>Years from S1 to S2 (<i>n</i> = 1011)</b>	
Mean (SD)	7.7 (0.9)
Median (Range)	7.8 (5.7 – 10.0)
<b>Post-S1 observation time; years from S1 to EoS (<i>n</i> = 1392)</b>	
Mean (SD)	18.9 (4.3)
Median (Range)	20.3 (0.03 – 22.3)
<b>Post-S2 observation time; years from S2 to EoS (<i>n</i> = 1011)</b>	
Mean (SD)	12.1 (2.5)
Median (Range)	12.8 (0.13 – 13.9)
<b>Years from orchiectomy to EoS (<i>n</i> = 1392)</b>	
Mean (SD)	30.7 (5.7)
Median (Range)	30.7 (7.3 – 41.1)

**Abbreviations:** S1: Survey 1, S2: Survey 2, SD: Standard deviation, EoS: End of Study

**Table S3: Cause of death from S1 to EoS and from S2 and EoS**

Cause of death	From S1 to EoS			From S2 to EoS		
	n	% of S1 responders	% of total deaths	n	% of S2 responders	% of total deaths
Testicular cancer	10	0.7	3.7	4	0.4	2.9
Secondary cancer	119	8.5	44.4	66	6.5	47.8
Cardiovascular disease	45	3.2	16.8	18	1.8	13.0
Other diseases	78	5.6	29.1	42	4.2	30.4
Unknown	16	1.1	6.0	8	0.8	5.8
Total death	268	19.3	100	138	13.6	100
Alive	1124	80.7		873	86.4	
Total	1392	100		1011	100	

**Abbreviations:** S1: Survey 1, S2: Survey 2, EoS: End of Study

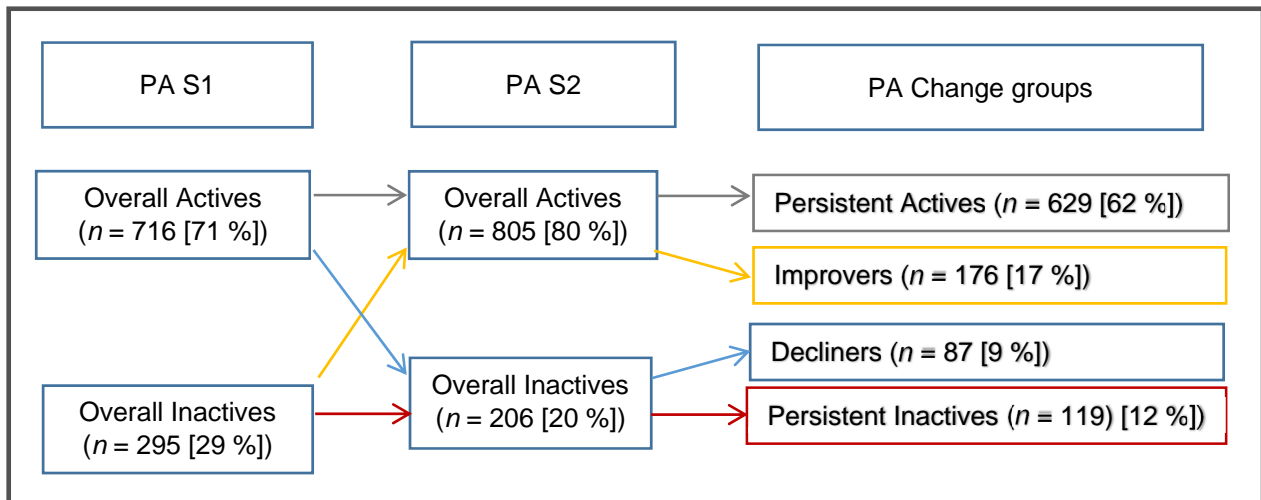
**Question:** How has your physical activity level in your leisure time been, the last year?

(Image a weekly average for the year, walking to your working place counts as leisure time.)

	No 0 <sup>1</sup>	< 1 0,5 <sup>1</sup>	1-2 1,5 <sup>1</sup>	≥ 3 4 <sup>1</sup>
Low-level activity ("not sweaty/breatless") (LMPA - MET-value 4)	0 <sup>2</sup>	2 <sup>2</sup>	6 <sup>2</sup>	16 <sup>2</sup>
High-level activity ("sweaty/breatless") (VPA - MET-value 8)	0 <sup>2</sup>	4 <sup>2</sup>	12 <sup>2</sup>	32 <sup>2</sup>

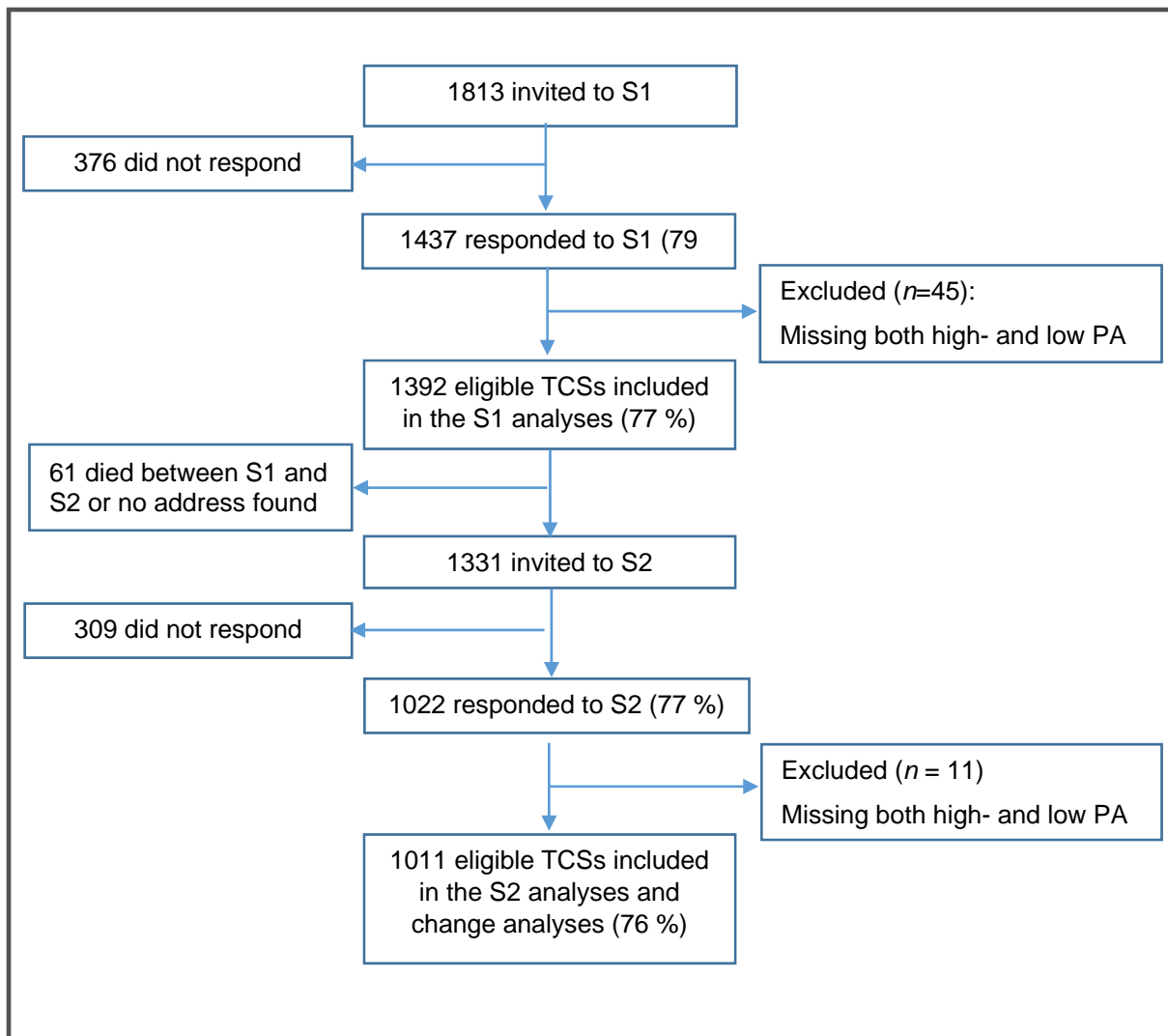
**Figure S1. Physical activity assessment**

**Abbreviations:** LMPA, Light to Moderate Physical Activity; MET, Metabolic Equivalent Task, VPA, Vigorous Physical Activity <sup>1</sup> Estimated hours spent <sup>2</sup> Estimated hours spent x assigned MET-value (MET-hour/week)



**Figure S2. Change in physical activity from Survey 1 to Survey 2 among participants who responded on both surveys ( $n = 1011$ )**

**Abbreviations:** PA, Physical Activity; S1, Survey 1; S2, Survey 2



**Figure S3. Flow-chart of the study.**

**Abbreviations:** S1, Survey 1; S2, Survey 2; PA, Physical Activity; TCS, Testicular cancer survivors.