Supplementary file - The association between change in cardiorespiratory fitness and prostate cancer incidence and mortality in 57,652 Swedish men

Table s1- Hazards Ratios with 95% confidence intervals for the association between cardiorespiratory fitness at baseline and follow-up and prostate cancer incidence

	Model 1		**Model 2**		**Model 3**		**Model 4**	
	Estimates	*CI*	*Estimates*	*CI*	*Estimates*	*CI*	*Estimates*	*CI*
Baseline VO_{2max} (L/min)	0.51 ***	0.45 – 0.57	1.04	0.91 – 1.20	1.06	0.92 – 1.21	1.05	0.91 – 1.20
Follow-up VO_{2max} (L/min)	0.45 ***	0.40 – 0.51	0.93	0.81 – 1.07	0.93	0.81 – 1.07	0.92	0.80 – 1.06
Baseline VO_{2max} ($mL \cdot kg^{-1} \cdot min^{-1}$)	0.95 ***	0.94 – 0.96	1.01	0.99 – 1.02	1.00	0.99 – 1.01	1.00	0.99 – 1.01
Follow-up VO_{2max} ($mL \cdot kg^{-1} \cdot min^{-1}$)	0.95 ***	0.94 – 0.95	1.00	0.98 – 1.01	0.99	0.98 – 1.00	0.99	0.98 – 1.00
Observations	57652		57652		57652		57652	

** p<0.05 ** p<0.01 *** p<0.001*

Model 1: Adjusted for baseline fitness. Model 2: Adjusted for baseline fitness, age, education, and year of last test. Model 3: Adjusted for baseline fitness, age, education, year of last test, and body mass index. Model 4: Adjusted for baseline fitness, age, education, year of last test, body mass index, and smoking.

Supplementary Table s2. Hazards Ratios with 95% confidence intervals for the association between change in cardiorespiratory fitness and prostate cancer incidence

	Model 5		**N**	**Cases**
	HR	*95% CI*		
% change in VO_{2max} (L/min)	0.98 *	0.97 – 0.99	57652	592
Change in VO_{2max} (L/min)	0.53 *	0.33– 0.86	57652	592
% change in VO_{2max} ($mL \cdot kg^{-1} \cdot min^{-1}$)	0.99	0.98 – 1.01	57652	592
Change in VO_{2max} ($mL \cdot kg^{-1} \cdot min^{-1}$)	0.99	0.95 – 1.03	57652	592

** p<0.05 ** p<0.01 *** p<0.001*

Model 5: Additionally adjusted for physical activity.

Supplementary table s3. Hazards ratios with 95% confidence intervals for incidence in a sensitivity analysis excluding individuals diagnosed with prostate cancer within 2 years of last test

	Model 1		**Model 2**		**Model 3**		**Model 4**	
Predictors	*HR*	*95% CI*	*HR*	*95% CI*	*HR*	*95% CI*	*HR*	*95% CI*
Change in VO_{2max} (L/min)	0.30 ***	0.18 – 0.51	0.46 *	0.26 – 0.84	0.46 *	0.25 – 0.84	0.44 **	0.24 – 0.81
% change in VO_{2max} (L/min)	0.97 ***	0.95 – 0.98	0.98 **	0.96 – 0.99	0.98 **	0.96 – 0.99	0.97 **	0.96 – 0.99
% change in VO_{2max} ($mL \cdot kg^{-1} \cdot min^{-1}$)	0.97 ***	0.96 – 0.99	0.99	0.97 – 1.01	0.99	0.97 – 1.00	0.99	0.97 – 1.00
Decrease (-3%)	1.23	1.00 – 1.52	1.12	0.91 – 1.38	1.13	0.92 – 1.40	1.13	0.91 – 1.39
Stable (±3%)	Ref		Ref		Ref		Ref	
Increase (+3%)	0.77 *	0.61 – 0.97	0.79	0.62 – 1.02	0.78	0.61 – 1.00	0.76 *	0.59 – 0.98
Observations	57549							
Diagnosed with prostate cancer within 2 years	103							
Prostate cancer cases	489							

$^{*}p<0.05$ $^{**}p<0.01$ $^{***}p<0.001$

Model 1: Adjusted for baseline fitness. Model 2: Adjusted for baseline fitness, age, education, and year of last test. Model 3: Adjusted for baseline fitness, age, education, year of last test, and body mass index. Model 4: Adjusted for baseline fitness, age, education, year of last test, body mass index, and smoking.

Table s4 - Hazards Ratios with 95% confidence intervals for the association between percentage change in cardiorespiratory fitness at baseline and follow-up and prostate cancer incidence

	Model 1		**Model 2**		**Model 3**		**Model 4**	
	HR	*95% CI*	*HR*	*95% CI*	*HR*	*95% CI*	*HR*	*95% CI*
Low (< 32.4 mL·kg^{-1}·min^{-1})	0.98	0.96 – 1.00	0.99	0.97 – 1.01	0.99	0.97 – 1.01	0.99	0.96 – 1.01
Moderate (32.4 to 40.7 mL·kg^{-1}·min^{-1})	0.95 ***	0.93 – 0.97	0.97 **	0.94 – 0.99	0.97 **	0.94 – 0.99	0.97 **	0.95 – 1.00
High (>40.7 mL·kg^{-1}·min^{-1})	0.94 ***	0.91 – 0.98	0.97	0.94 – 0.99	0.97	0.94 – 0.99	0.97	0.94 – 0.99

** p<0.05 ** p<0.01 *** p<0.001*

Model 1: Adjusted for baseline fitness. Model 2: Adjusted for baseline fitness, age, education, and year of last test. Model 3: Adjusted for baseline fitness, age, education, year of last test, and body mass index. Model 4: Adjusted for baseline fitness, age, education, year of last test, body mass index, and smoking.

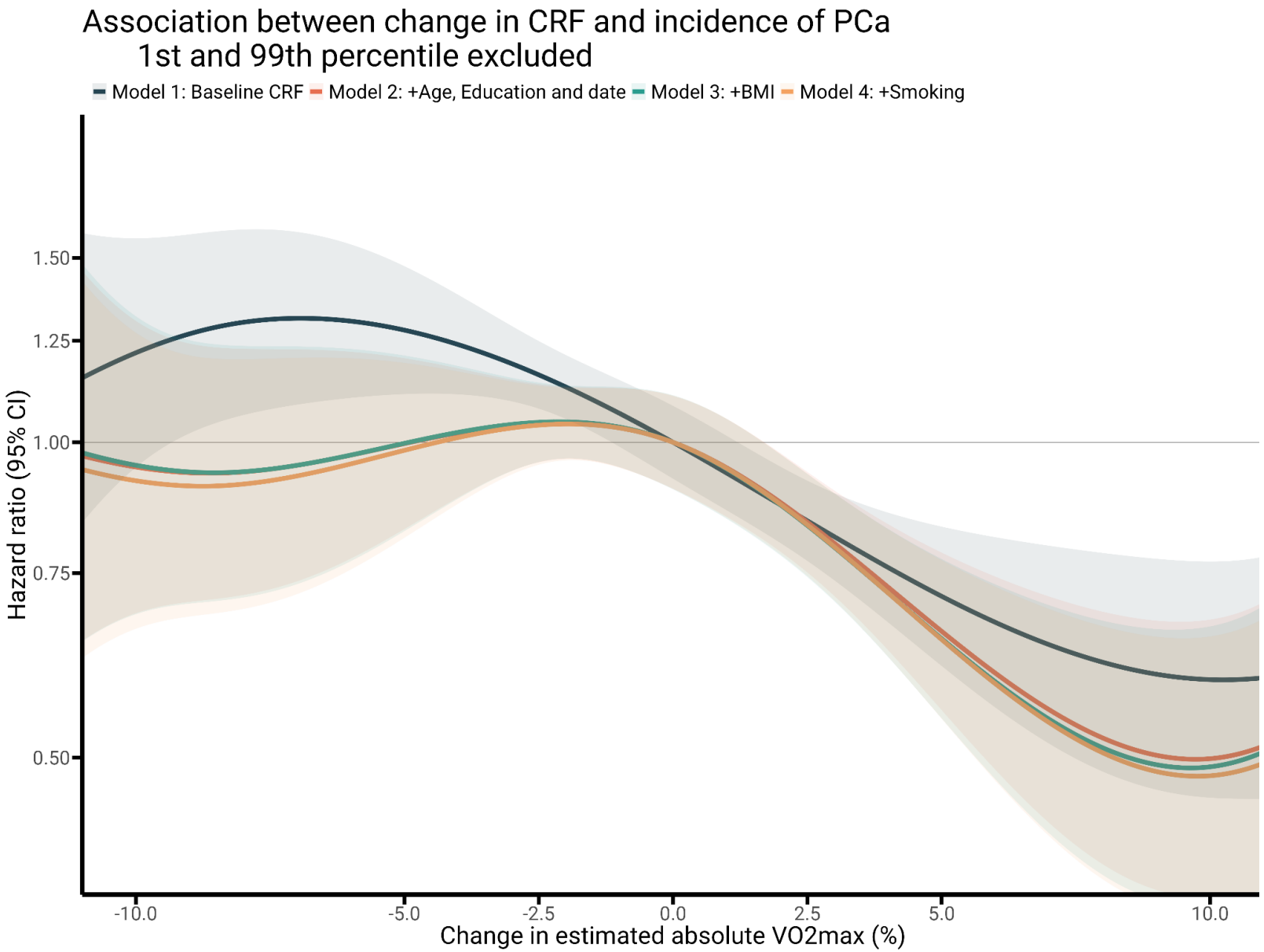

Figure S1 – Sensitivity Analysis: Restricted cubic splines of the cox proportional model examining the association between % change in Cardiorespiratory fitness and incidence of prostate cancer excluding the 1st and 99th percentile. Knots are placed at 5th, 50th and 95th percentile.

Supplementary table s5. Change in physical activity and change in cardiorespiratory fitness associations using linear regressions

	Model 1		**Model 2**		**Model 3**		**Model 4**	
Predictors	*Beta*	*95% CI*	*Beta*	*95% CI*	*Beta*	*95% CI*	*Beta*	*95% CI*
Change in physical activity	0.60 ***	0.57 – 0.64	0.60 ***	0.55 – 0.63	0.60 ***	0.56 – 0.64	0.28 ***	0.24 – 0.32
Observations	57652							

* *p<0.05* ** *p<0.01* *** *p<0.001*

Model 1: Adjusted for baseline fitness. Model 2: Adjusted for baseline fitness, age, education, and year of last test. Model 3: Adjusted for baseline fitness, age, education, year of last test, and body mass index. Model 4: Adjusted for baseline fitness, age, education, year of last test, body mass index, and smoking.