Associations of statin use with motor performance and myalgia may be modified by 25-hydroxyvitamin D: findings from a British birth cohort.

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Supplementary Table 1: Odds ratio of difficulty gripping heavy objects by statin use and 25-hydroxyvitamin D status, adjusted for inflammatory markers, BMI, knee OA, education, SEC and smoking (n= 1556).

	Difficulty gripping heavy objects														
	Model A (Sex adjusted only)			Model B (Mutually adjusted with interaction)			Model C = Model B + inflammatory markers			Model D = Model C + BMI & Knee OA			Model E = Model D + SEC, education & smoking†		
	OR	95% CI	p value	OR	95% CI	p value	OR	95% CI	p value	OR	95% CI	p value	OR	95% CI	p value
Statin Use	1.2	(0.9,1.7)	0.211												
25-hydroxyvitamin D															
Overall effect			0.149												
Normal >20 ng/l	1.0														
Insufficient 13-20ng/l	0.9	(0.6,1.3)													
Deficient <13ng/l	1.2	(0.9,1.7)													
Statin Use (vs non use) by 25-hydroxyvitamin D (Interaction)															
Statin Use in those with Normal >20 ng/l				0.7	(0.3,1.3)	0.260	0.6	(0.3,1.3)	0.236	0.6	(0.3,1.3)	0.250	0.6	(0.3,1.3)	0.213
Statin Use in Insufficient 13-20ng/l				1.8	(1.0,3.2)	0.049	1.7	(0.9,3.0)	0.082	1.5	(0.8,2.7)	0.187	1.4	(0.7,2.5)	0.286
Statin Use in Deficient <13ng/l				1.3	(0.8,2.2)	0.312	1.3	(0.7,2.1)	0.364	1.2	(0.7,2.0)	0.563	1.1	(0.6,1.8)	0.809
IL6 (log pg/ml)							1.2	(0.9,1.5)	0.132	1.2	(0.9,1.5)	0.164	1.1	(0.9,1.4)	0.232
CRP (log mg/l)							1.2	(1.0,1.5)	0.019	1.2	(1.0,1.4)	0.065	1.1	(1.0,1.4)	0.140
BMI at 53 (per 1 kg/m2 increase)										1.0	(1.0,1.0)	0.465	1.0	(1.0,1.0)	0.551
Knee OA at 53 (Yes vs No)										1.9	(1.3,2.9)	0.002	1.9	(1.2,2.8)	0.003
Sex (Men vs Women)				5.2	(3.8,7.2)	<0.001	5.2	(3.8,7.2)	<0.001	5.0	(3.6,7.0)	<0.001	5.0	(3.6,7.0)	<0.001

† SEC, education & smoking not shown

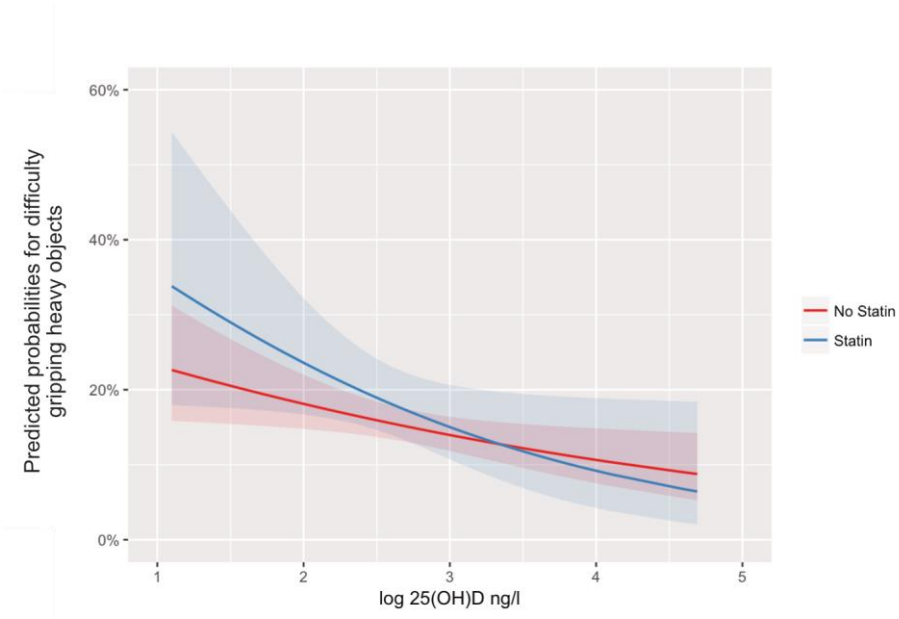
*** p-value=0.093 for the interaction between statin use and 25-hydroxyvitamin D in Model B (formally tested using a likelihood ratio test comparing models with and without an interaction between 25-hydroxyvitamin D and statin use)**

Supplementary Table 2: Difference in mean grip strength (kg) by statin use and 25-hydroxyvitamin D status, adjusted for inflammatory markers, BMI, knee OA, education, SEC and smoking (n= 1556).

	Grip Strength														
	Model A (Sex adjusted only)			Model B (Mutually adjusted with interaction)			Model C = Model B + inflammatory markers			Model D = Model C + BMI & Knee OA			Model E = Model D + SEC, education & smoking†		
	Regression coefficient	95% CI	p value	Regression coefficient	95% CI	p value	Regression coefficient	95% CI	p value	Regression coefficient	95% CI	p value	Regression coefficient	95% CI	p value
Statin Use	-0.2	(-1.4, 1.1)	0.764												
25-hydroxyvitamin D															
Overall effect			0.426												
Normal >20 ng/l	0														
Insufficient Vit D 13-20ng/l	0.0	(-1.3, 1.2)													
Deficient <13ng/l	-0.7	(-1.9, 0.5)													
Statin Use (vs non use) by 25-hydroxyvitamin D (Interaction)															
Statin Use in those with Normal >20 ng/l				-0.9	(-3.3, 1.5)	0.449	-0.8	(-3.1, 1.6)	0.518	-1.2	(-3.5, 1.2)	0.328	-1.1	(-3.4, 1.3)	0.367
Statin Use in Insufficient 13-20ng/l				0.7	(-1.4, 2.8)	0.512	1.0	(-1.1, 3.1)	0.365	0.9	(-1.2, 3.1)	0.398	1.2	(-1.0, 3.3)	0.287
Statin Use in Deficient <13ng/l				-0.3	(-2.4, 1.7)	0.746	-0.2	(-2.3, 1.8)	0.819	-0.4	(-2.5, 1.6)	0.670	-0.3	(-2.3, 1.7)	0.784
IL6 (log pg/ml)							-0.9	(-1.8, -0.1)	0.023	-1.0	(-1.8, -0.2)	0.015	-0.9	(-1.8, -0.1)	0.023
CRP (log mg/l)							-0.5	(-1.2, 0.1)	0.124	-0.6	(-1.3, 0.1)	0.072	-0.5	(-1.2, 0.2)	0.160
BMI at 53 (per 1 kg/m2 increase)										0.1	(0.0, 0.3)	0.017	0.2	(0.0, 0.3)	0.010
Knee OA at 53 (Yes vs No)										-2.3	(-4.0, -0.5)	0.013	-2.1	(-3.8, -0.3)	0.023
Sex (Men vs Women)				-19.2	(-20.2,-18.2)	<0.001	-19.2	(-20.2,-18.2)	<0.001	-19.1	(-20.1,-18.1)	<0.001	-18.8	(-19.8,-17.7)	<0.001

† SEC, education & smoking not shown

*** p-value=0.585 for the interaction between statin use and 25-hydroxyvitamin D in Model B (formally tested using a likelihood ratio test comparing models with and without an interaction between 25-hydroxyvitamin D and statin use)**



Supplementary Figure 1: Interaction effect of statin use and log 25-hydroxyvitamin D (modelled continuously) in association with gripping heavy objects (p-value for interaction=0.41).