Electronic Supplementary Material (ESI) for Photochemical & Photobiological Sciences.

Table S1a. Hazard ratios for developing internal malignancies in relation to personal mean pre-diagnostic 25-hydroxyvitamin D concentrations in four separate quarters over the year and over the whole year (model 2).

	All patients			Men			Women		
	No Cancer N (%)	Internal malignancy N (%)	HR (95% CI)	No Cancer N (%)	Internal malignancy N (%)	HR (95% CI)	No Cancer N (%)	Internal malignancy N (%)	HR (95% CI)
25OHD January - December	(N = 996)	(N = 65)		(N = 598)	(N = 37)		(N = 398)	(N = 28)	
Sufficient (≥50 nmol/L)	426 (42.7)	24 (36.9)	1	267 (44.6)	16 (43.2)	1	159 (39.9)	8 (28.6)	1
Insufficient (30-49 nmol/L)	389 (39.1)	30 (46.2)	1.4 (0.80;2.3)	238 (39.8)	18 (48.6)	1.2 (0.60;2.3)	151 (37.0)	12 (42.9)	1.7 (0.70;4.2)
Deficient (<30 nmol/L)	181 (18.2)	11 (16.9)	1.4 (0.68;2.8)	93 (15.6)	3 (8.1)	0.62 (0.18;2.1)	88 (22.1)	8 (28.6)	2.7 (0.98;7.2)
25OHD January - March	(N = 614)	(N = 35)		(N = 375)	(N = 18)		(N = 239)	(N = 17)	
Sufficient (≥50 nmol/L)	158 (25.7)	7 (20.0)	1	82 (21.9)	4 (22.2)	1	76 (31.8)	3 (17.6)	1
Insufficient (30-49 nmol/L)	251 (40.9)	9 (25.7)	1.0 (0.37;2.7)	173 (46.1)	4 (22.2)	0.54 (0.14;2.2)	78 (32.6)	5 (29.4)	1.7 (0.40;7.1)
Deficient (<30 nmol/L)	205 (33.4)	19 (54.3)	**2.5 (1.0; 6.0)**	120 (32.0)	10 (55.6)	1.6 (0.50; 5.1)	85 (35.6)	9 (52.9)	3.7 (0.99;13.9)
25OHD April - June	(N = 561)	(N = 38)		(N = 329)	(N = 19)		(N = 232)	(N = 19)	
Sufficient (≥50 nmol/L)	237 (42.2)	14 (36.8)	1	142 (43.2)	8 (42.1)	1	95 (40.9)	6 (31.6)	1
Insufficient (30-49 nmol/L)	213 (38.0)	14 (36.8)	1.0 (0.50;2.2)	131 (39.8)	10 (52.6)	1.2 (0.48;3.1)	82 (35.3)	4 (21.1)	0.77 (0.22;2.7)
Deficient (<30 nmol/L)	111 (19.8)	10 (26.2)	1.8 (0.79;4.0)	56 (17.0)	1 (5.3)	0.30 (0.04;2.4)	55 (23.7)	9 (47.4)	**3.5 (1.2;10.3)**
25OHD July - September	(N = 576)	(N = 38)		(N = 343)	(N = 22)		(N = 233)	(N = 16)	
Sufficient (≥50 nmol/L)	380 (66.0)	22 (57.9)	1	245 (71.4)	15 (68.2)	1	135 (57.9)	7 (43.8)	1
Insufficient (30-49 nmol/L)	130 (22.6)	13 (34.2)	1.8 (0.92;3.6)	74 (21.6)	6 (27.3)	1.3 (0.52;3.4)	56 (24.0)	7 (43.8)	**3.1 (1.1;9.4)**
Deficient (<30 nmol/L)	66 (11.4)	3 (7.9)	0.77 (0.22;2.6)	24 (7.0)	1 (4.5)	0.65 (0.09;4.9)	42 (18.1)	2 (12.4)	1.3 (0.26;6.5)
25OHD October - December	(N = 549)	(N = 28)		(N = 334)	(N = 17)		(N = 215)	(N = 11)	
Sufficient (≥50 nmol/L)	257 (46.8)	10 (35.7)	1	166 (49.7)	7 (41.2)	1	91 (42.3	3 (27.3)	1
Insufficient (30-49 nmol/L)	196 (35.7)	14 (50.0)	1.9 (0.84;4.3)	115 (34.4)	8 (47.1)	1.6 (0.57;4.3)	81 (37.7)	6 (54.5)	2.8 (0.69;11.2)
Deficient (<30 nmol/L)	96 (17.5)	4 (14.3)	1.2 (0.38;3.9)	53 (15.9)	2 (11.8)	0.94 (0.19;4.5)	43 (20.0)	2 (18.2)	2.1 (0.34;12.6)

HR = hazard ratio; CI = confidence interval.

Table S1b. Hazard ratios for developing internal malignancies in relation to personal mean pre-diagnostic 25-hydroxyvitamin D concentrations in four separate quarters over the year and over the whole year (model 2), adjusted for age, sex and immunosuppressive regimen.

	All patients			Men			Women		
	No Cancer N (%)	Internal malignancy N (%)	HR (95% CI)	No Cancer N (%)	Internal malignancy N (%)	HR (95% CI)	No Cancer N (%)	Internal malignancy N (%)	HR (95% CI)
25OHD January - December	(N = 996)	(N = 65)		(N = 598)	(N = 37)		(N = 398)	(N = 28)	
Sufficient (≥50 nmol/L)	426 (42.7)	24 (36.9)	1	267 (44.6)	16 (43.2)	1	159 (39.9)	8 (28.6)	1
Insufficient (30-49 nmol/L)	389 (39.1)	30 (46.2)	1.3 (0.75;2.2)	238 (39.8)	18 (48.6)	1.2 (0.60;2.3)	151 (37.0)	12 (42.9)	1.4 (0.57;3.5)
Deficient (<30 nmol/L)	181 (18.2)	11 (16.9)	1.4 (0.69;2.9)	93 (15.6)	3 (8.1)	0.74 (0.22;2.6)	88 (22.1)	8 (28.6)	2.2 (0.79;5.9)
25OHD January - March	(N = 614)	(N = 35)		(N = 375)	(N = 18)		(N = 239)	(N = 17)	
Sufficient (≥50 nmol/L)	158 (25.7)	7 (20.0)	1	82 (21.9)	4 (22.2)	1	76 (31.8)	3 (17.6)	1
Insufficient (30-49 nmol/L)	251 (40.9)	9 (25.7)	0.995 (0.37;2.7)	173 (46.1)	4 (22.2)	0.60 (0.15;2.4)	78 (32.6)	5 (29.4)	1.8 (0.42;7.5)
Deficient (<30 nmol/L)	205 (33.4)	19 (54.3)	2.3 (0.96; 5.5)	120 (32.0)	10 (55.6)	2.0 (0.62; 6.4)	85 (35.6)	9 (52.9)	2.6 (0.68;10.1)
25OHD April - June	(N = 561)	(N = 38)		(N = 329)	(N = 19)		(N = 232)	(N = 19)	
Sufficient (≥50 nmol/L)	237 (42.2)	14 (36.8)	1	142 (43.2)	8 (42.1)	1	95 (40.9)	6 (31.6)	1
Insufficient (30-49 nmol/L)	213 (38.0)	14 (36.8)	1.02 (0.49;2.1)	131 (39.8)	10 (52.6)	1.3 (0.49;3.2)	82 (35.3)	4 (21.1)	0.67 (0.19;2.4)
Deficient (<30 nmol/L)	111 (19.8)	10 (26.2)	1.6 (0.72;3.7)	56 (17.0)	1 (5.3)	0.33 (0.04;2.7)	55 (23.7)	9 (47.4)	2.6 (0.88;7.7)
25OHD July - September	(N = 576)	(N = 38)		(N = 343)	(N = 22)		(N = 233)	(N = 16)	
Sufficient (≥50 nmol/L)	380 (66.0)	22 (57.9)	1	245 (71.4)	15 (68.2)	1	135 (57.9)	7 (43.8)	1
Insufficient (30-49 nmol/L)	130 (22.6)	13 (34.2)	1.6 (0.81;3.2)	74 (21.6)	6 (27.3)	1.3 (0.52;3.5)	56 (24.0)	7 (43.8)	2.2 (0.73;6.6)
Deficient (<30 nmol/L)	66 (11.4)	3 (7.9)	0.86 (0.26;2.9)	24 (7.0)	1 (4.5)	0.65 (0.09;4.9)	42 (18.1)	2 (12.4)	1.3 (0.26;6.4)
25OHD October - December	(N = 549)	(N = 28)		(N = 334)	(N = 17)		(N = 215)	(N = 11)	
Sufficient (≥50 nmol/L)	257 (46.8)	10 (35.7)	1	166 (49.7)	7 (41.2)	1	91 (42.3	3 (27.3)	1
Insufficient (30-49 nmol/L)	196 (35.7)	14 (50.0)	1.9 (0.82;4.2)	115 (34.4)	8 (47.1)	1.6 (0.58;4.4)	81 (37.7)	6 (54.5)	2.2 (0.54;9.2)
Deficient (<30 nmol/L)	96 (17.5)	4 (14.3)	1.4 (0.42;4,3)	53 (15.9)	2 (11.8)	1.1 (0.23;5.4)	43 (20.0)	2 (18.2)	1.6 (0.26;10.0)

HR = hazard ratio; CI = confidence interval.

Table S2a. Hazard ratios for developing cutaneous squamous cell carcinoma in relation to personal mean pre-diagnostic 25-hydroxyvitamin D concentrations in four separate quarters over the year and over the whole year (model 2).

	All patients			Men			Women		
	No Cancer N (%)	SCC N (%)	HR (95% CI)	No Cancer N (%)	SCC N (%)	HR (95% CI)	No Cancer N (%)	SCC N (%)	HR (95% CI)
25OHD January - December	(N = 996)	(N = 58)		(N = 598)	(N = 44)		(N = 398)	(N = 14)	
Sufficient (≥50 nmol/L)	426 (42.7)	30 (51.7)	1	267 (44.6)	21 (47.7)	1	159 (39.9)	9 (64.3)	1
Insufficient (30-49 nmol/L)	389 (39.1)	18 (31.0)	0.72 (0.40;1.3)	238 (39.8)	15 (34.1)	0.85 (0.44;1.6)	151 (37.0)	3 (21.4)	0.41 (0.11;1.5)
Deficient (<30 nmol/L)	181 (18.2)	10 (17.3)	1.0 (0.51;2.1)	93 (15.6)	8 (18.2)	1.1 (0.47;2.4)	88 (22.1)	2 (14.3)	0.76 (0.16;3.5)
25OHD January - March	(N = 614)	(N = 34)		(N = 375)	(N = 28)		(N = 239)	(N = 6)	
Sufficient (≥50 nmol/L)	158 (25.7)	14 (41.2)	1	82 (21.9)	10 (35.8)	1	76 (31.8)	4 (66.7)	1
Insufficient (30-49 nmol/L)	251 (40.9)	9 (26.5)	0.48 (0.21;1.1)	173 (46.1)	9 (32.1)	0.46 (0.18;1.1)	78 (32.6)	0	--
Deficient (<30 nmol/L)	205 (33.4)	11 (32.4)	0.72 (0.33;1.6)	120 (32.0)	9 (32.1)	0.55 (0.22;1.4)	85 (35.6)	2 (33.3)	0.81 (0.15;4.5)
25OHD April - June	(N = 561)	(N = 29)		(N = 329)	(N = 21)		(N = 232)	(N = 8)	
Sufficient (≥50 nmol/L)	237 (42.2)	16 (55.2)	1	142 (43.2)	10 (47.6)	1	95 (40.9)	6 (75.0)	1
Insufficient (30-49 nmol/L)	213 (38.0)	10 (34.5)	0.68 (0.31;1.5)	131 (39.8)	9 (42.9)	0.89 (0.36;2.2)	82 (35.3)	1 (12.5)	0.20 (0.02;1.7)
Deficient (<30 nmol/L)	111 (19.8)	3 (10.3)	0.54 (0.16;1.9)	56 (17.0)	2 (9.5)	0.52 (0.11;2.4)	55 (23.7)	1 (12.5)	0.59 (0.07;5.0)
25OHD July - September	(N = 576)	(N = 30)		(N = 343)	(N = 24)		(N = 233)	(N = 6)	
Sufficient (≥50 nmol/L)	380 (66.0)	24 (80.0)	1	245 (71.4)	20 (83.3)	1	135 (57.9)	4 (66.6)	1
Insufficient (30-49 nmol/L)	130 (22.6)	4 (13.3)	0.59 (0.20;1.7)	74 (21.6)	3 (12.5)	0.57 (0.17;1.9)	56 (24.0)	1 (16.7)	0.74 (0.08;6.7)
Deficient (<30 nmol/L)	66 (11.4)	2 (6.7)	0.64 (0.15;2.7)	24 (7.0)	1 (4.2)	0.50 (0.07;3.7)	42 (18.1)	1 (16.7)	1.2 (0.13;10.9)
25OHD October - December	(N = 549)	(N = 26)		(N = 334)	(N = 22)		(N = 215)	(N = 4)	
Sufficient (≥50 nmol/L)	257 (46.8)	15 (57.7)	1	166 (49.7)	12 (54.5)	1	91 (42.3	3 (75.0)	1
Insufficient (30-49 nmol/L)	196 (35.7)	8 (30.8)	0.74 (0.31;1.7)	115 (34.4)	8 (36.4)	0.68 (0.27;1.7)	81 (37.7)	0	--
Deficient (<30 nmol/L)	96 (17.5)	3 (11.5)	0.65 (0.19;2.2)	53 (15.9)	2 (9.1)	0.41 (0.09;1.9)	43 (20.0)	1 (25.0)	1.3 (0.13;13.2)

HR = hazard ratio; CI = confidence interval; SCC = squamous cell carcinoma.

Table S2b. Hazard ratios for developing cutaneous squamous cell carcinoma in relation to personal mean pre-diagnostic 25-hydroxyvitamin D concentrations in four separate quarters over the year and over the whole year (model 2), adjusted for age, sex and immunosuppressive regimen.

	All patients			Men			Women		
	No Cancer N (%)	SCC N (%)	HR (95% CI)	No Cancer N (%)	SCC N (%)	HR (95% CI)	No Cancer N (%)	SCC N (%)	HR (95% CI)
25OHD January - December	(N = 996)	(N = 58)		(N = 598)	(N = 44)		(N = 398)	(N = 14)	
Sufficient (≥50 nmol/L)	426 (42.7)	30 (51.7)	1	267 (44.6)	21 (47.7)	1	159 (39.9)	9 (64.3)	1
Insufficient (30-49 nmol/L)	389 (39.1)	18 (31.0)	0.70 (0.39;1.3)	238 (39.8)	15 (34.1)	0.86 (0.44;1.7)	151 (37.0)	3 (21.4)	0.36 (0.10;1.3)
Deficient (<30 nmol/L)	181 (18.2)	10 (17.3)	1.1 (0.54;2.3)	93 (15.6)	8 (18.2)	1.2 (0.52;2.7)	88 (22.1)	2 (14.3)	0.68 (0.14;3.2)
25OHD January - March	(N = 614)	(N = 34)		(N = 375)	(N = 28)		(N = 239)	(N = 6)	
Sufficient (≥50 nmol/L)	158 (25.7)	14 (41.2)	1	82 (21.9)	10 (35.8)	1	76 (31.8)	4 (66.7)	1
Insufficient (30-49 nmol/L)	251 (40.9)	9 (26.5)	**0.39 (0.16;0.91)**	173 (46.1)	9 (32.1)	0.46 (0.18;1.1)	78 (32.6)	0	--
Deficient (<30 nmol/L)	205 (33.4)	11 (32.4)	0.61 (0.27;1.4)	120 (32.0)	9 (32.1)	0.62 (0.25;1.6)	85 (35.6)	2 (33.3)	0.73 (0.13;4.2)
25OHD April - June	(N = 561)	(N = 29)		(N = 329)	(N = 21)		(N = 232)	(N = 8)	
Sufficient (≥50 nmol/L)	237 (42.2)	16 (55.2)	1	142 (43.2)	10 (47.6)	1	95 (40.9)	6 (75.0)	1
Insufficient (30-49 nmol/L)	213 (38.0)	10 (34.5)	0.67 (0.31;1.5)	131 (39.8)	9 (42.9)	0.95 (0.37;2.4)	82 (35.3)	1 (12.5)	0.19 (0.02;1.6)
Deficient (<30 nmol/L)	111 (19.8)	3 (10.3)	0.55 (0.16;1.9)	56 (17.0)	2 (9.5)	0.61 (0.13;2.8)	55 (23.7)	1 (12.5)	0.51 (0.06;4.5)
25OHD July - September	(N = 576)	(N = 30)		(N = 343)	(N = 24)		(N = 233)	(N = 6)	
Sufficient (≥50 nmol/L)	380 (66.0)	24 (80.0)	1	245 (71.4)	20 (83.3)	1	135 (57.9)	4 (66.6)	1
Insufficient (30-49 nmol/L)	130 (22.6)	4 (13.3)	0.57 (0.20;1.7)	74 (21.6)	3 (12.5)	0.55 (0.16;1.9)	56 (24.0)	1 (16.7)	0.57 (0.06;5.1)
Deficient (<30 nmol/L)	66 (11.4)	2 (6.7)	0.71 (0.17;3.0)	24 (7.0)	1 (4.2)	0.49 (0.07;3.7)	42 (18.1)	1 (16.7)	1.2 (0.14;11.4)
25OHD October - December	(N = 549)	(N = 26)		(N = 334)	(N = 22)		(N = 215)	(N = 4)	
Sufficient (≥50 nmol/L)	257 (46.8)	15 (57.7)	1	166 (49.7)	12 (54.5)	1	91 (42.3	3 (75.0)	1
Insufficient (30-49 nmol/L)	196 (35.7)	8 (30.8)	0.67 (0.28;1.6)	115 (34.4)	8 (36.4)	0.75 (0.30;1.9)	81 (37.7)	0	--
Deficient (<30 nmol/L)	96 (17.5)	3 (11.5)	0.64 (0.18;2.2)	53 (15.9)	2 (9.1)	0.49 (0.11;2.2)	43 (20.0)	1 (25.0)	0.94 (0.09;9.8)

HR = hazard ratio; CI = confidence interval; SCC = squamous cell carcinoma.