

VITAMIN D SUPPLEMENTATION AT AN EDINBURGH GENERAL PRACTICE, 56°N

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1. In our practice, 57% of adult patients needed 20,000 IU weekly to reach the optimal 25(OH)D concentration, 43% needed more.

2. Cancer patients might benefit from optimizing 25(OH)D levels.



Our practice area in Edinburgh

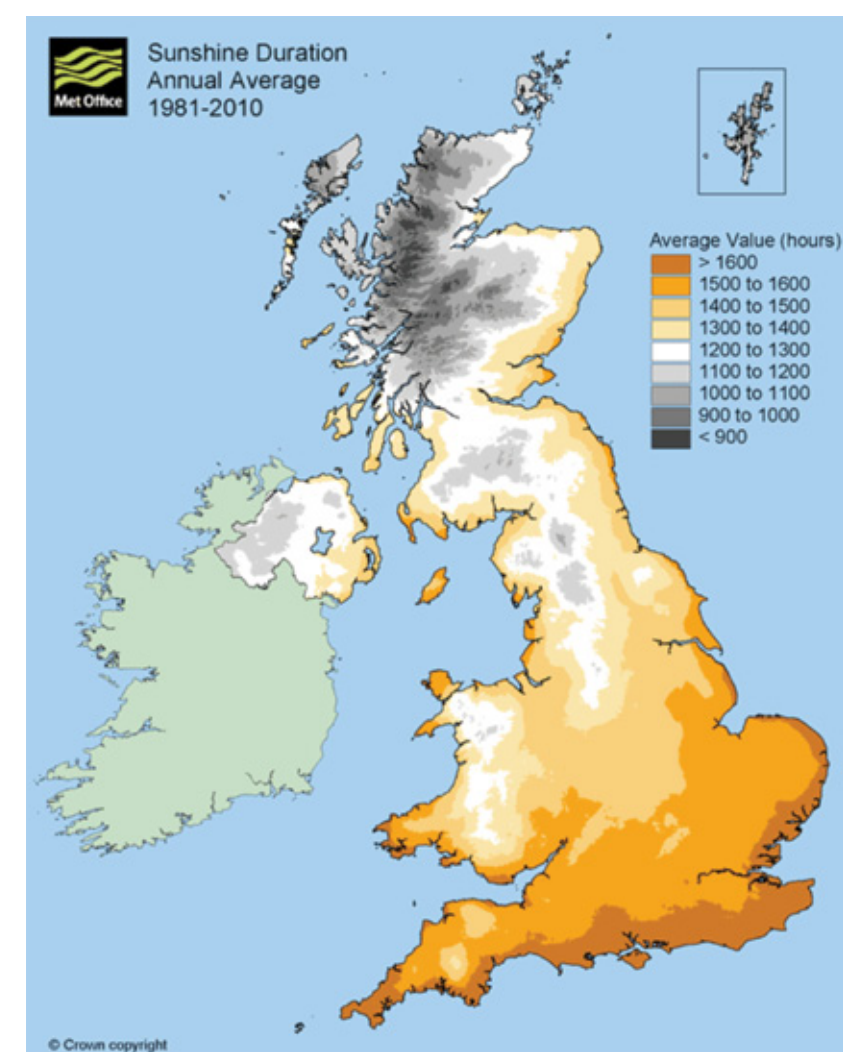
VITAMIN D DEFICIENCY IS WIDESPREAD IN SCOTLAND

Average 25-hydroxyvitamin D concentration:*
37.5 nmol/l (12.5 mg/ml)

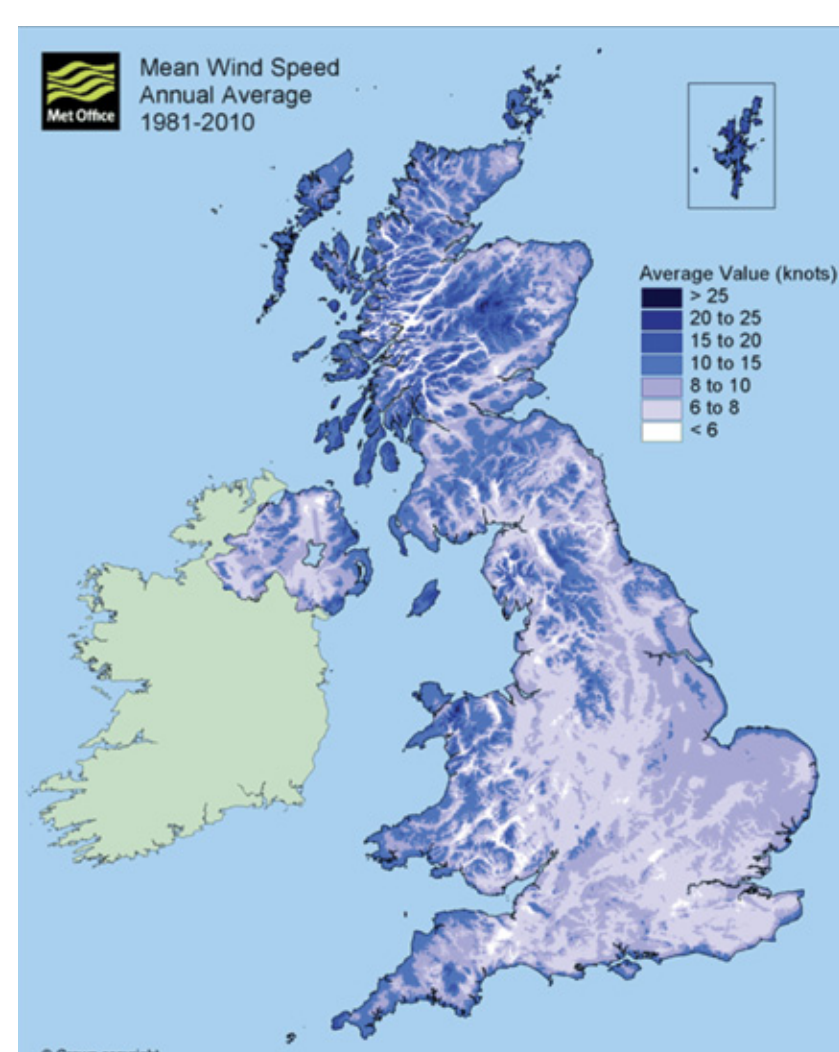
LATITUDE**



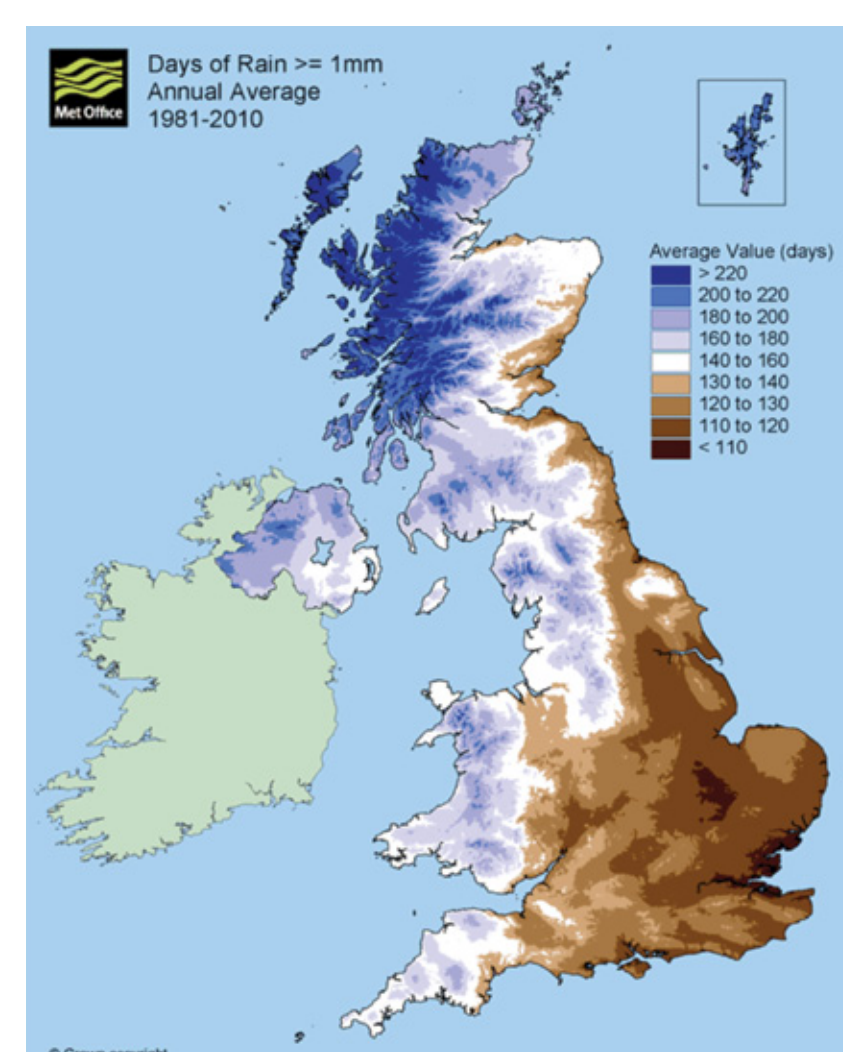
SUNSHINE



WIND



RAIN

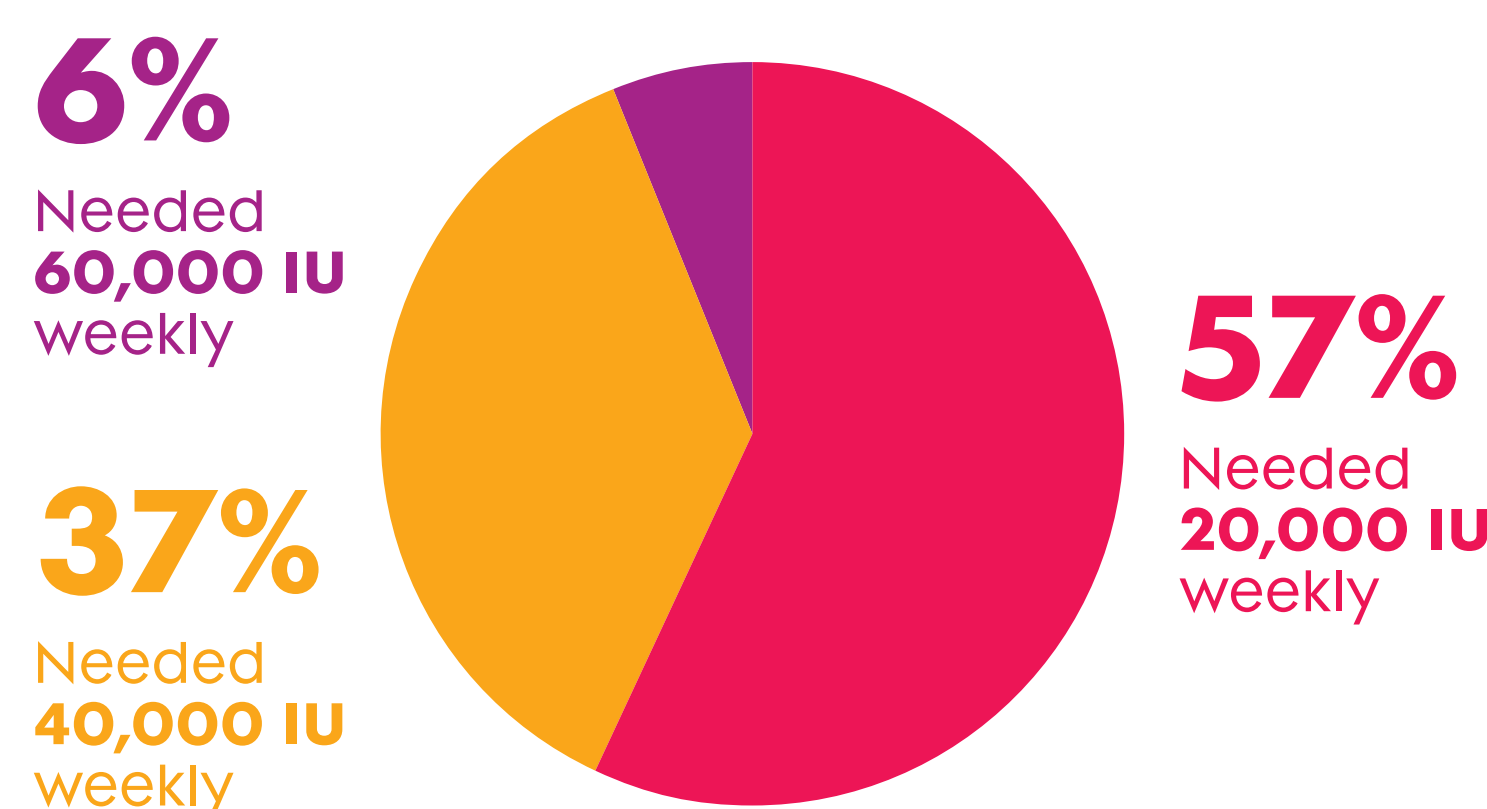


SIZE OF SUPPLEMENT NEEDED TO REACH SUFFICIENCY

Target for all:
75–150 nmol/l (30–60 ng/ml)

Target for cancer patients:
125–150 nmol/l (50–60 ng/ml)

124 ADULTS TESTED



ROUTINE VITAMIN D PRESCRIPTIONS FOR LAST 3–5 YEARS

In pregnancy:
2,000 IU daily

Small children (aged 0–5):
400 IU daily

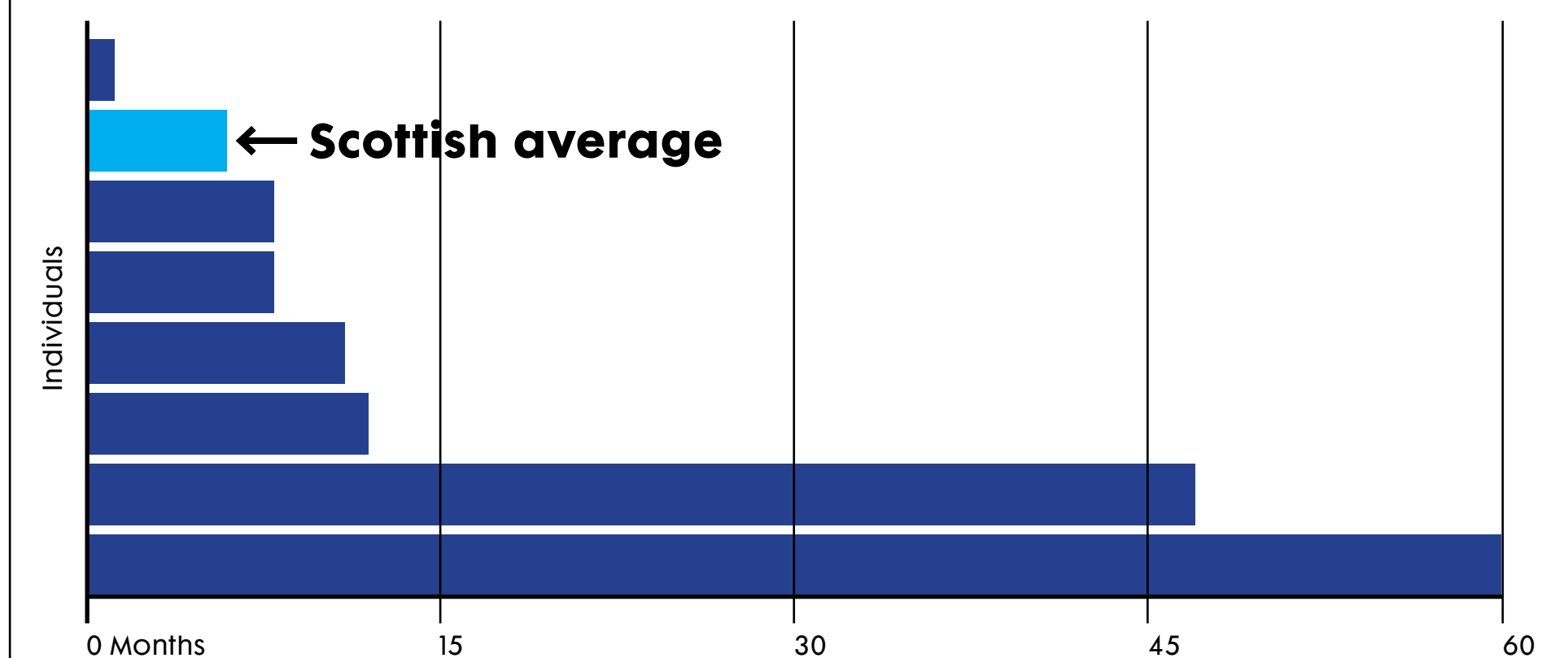
Older children (aged 5–10):
1,000 IU daily

Teenagers and adults:
20,000 IU weekly

SURVIVAL OF CANCER PATIENTS TREATED WITH VITAMIN D SUPPLEMENTS

Target:
125–150 nmol/l (50–60 ng/ml)

LUNG CANCER SURVIVAL



SURVIVING CANCER PATIENTS

Vitamin D supplements from diagnosis onwards

DIAGNOSIS	DATE	TREATMENT	AGE BAND	SEX	MONTHS BY 06/04/14
01 Lung, squamous IA	Apr 10	Lobectomy	70–75	M	47
02 Lung, Adeno T3 N3 M0	Mar 13	Chemo	65–70	F	12
03 Pharynx/Larynx T2 N2B	Aug 10	Chemo, XRT, Larynectomy	60–65	M	44
04 Pharynx/Larynx T3 N0	Sep 10	XRT, laser debulking	70–75	M	43
05 Colorectal Duke B	Jun 07	Sigmoid colectomy	60–65	M	82
06 Colorectal Duke C T3 N1 M0	Nov 10	R hemicolectomy and chemo	70–75	F	41
07 Colorectal Duke A	Jun 11	Anterior resection	70–75	M	34
08 Breast, invasive, grade 3	Mar 11	Letrozole and mastectomy	70–75	F	37
09 Breast, locally advanced	Mar 09	Pre-op chemo and mastectomy	50–55	F	61
10 Breast T1 N2 M0	Dec 09	Wide excision	40–45	F	52
11 Breast, grade 2	Nov 05	Mastectomy	70–75	F	101
12 Endometrial, adeno, grade 1B	Jun 10	TAH and vag/vault brachytherapy	60–65	F	46
13 Endometrial, adeno, grade 1B	Aug 10	TAH	55–60	F	44
14 Endometrial, recurrence (2001 grade III A)	Nov 10	Radical XRT	70–75	F	41
15 Endometrial FIGO 1B grade 2	Sep 09	TAH	50–55	F	55
16 Cervical Cancer 1b1	May 11	TAH	50–55	F	35
17 Prostate Gleason 3+3	Sep 07	Prostatectomy	65–70	M	79
18 Prostate Gleason 3+3	Jun 07	Radical XRT	65–70	M	82
19 Prostate Gleason 3+3	Mar 13	Active surveillance	70–75	M	13
20 CLL + Autoimmune Haemolytic Anaemia	Feb 07	Chemo	60–65	M	86
21 Burkitt's Lymphoma, high grade B – cell	Sep 09	Chemo	60–65	M	55
22 Lymphoma, extra nodal, stage 4	Apr 11	Steroids	60–65	M	36
23 Renal Cell	Nov 13	Radical nephrectomy	70–75	F	5

DECEASED CANCER PATIENTS

Vitamin D supplements from diagnosis onwards

DIAGNOSIS	DATE OF DIAGNOSIS	AGE BAND	SEX	MONTHS BY 06/04/14
01 Lung, bilat, Adeno	Apr 07	60–65	F	60
02 Lung, small cell	Jul 09	80–85	F	11
03 Lung	Apr 12	55–60	F	8
04 Lung	Oct 11	90–95	F	8
05 Lung	Oct 13	60–65	M	1 (M.I.)
06 Pharynx/Larynx	Jun 10	60–65	M	40
07 Tongue	Nov 12	70–75	M	9
08 Colorectal	Mar 12	75–80	M	11
09 Colorectal	Aug 12	75–80	F	1 (post op)
10 Gastric	May 12	85–90	M	16
11 Breast	Jun 10	65–70	F	22
12 Cervical	Jul 10	25–30	F	20

QUALITY OF LIFE IMPROVEMENTS

Written statements from some of our patients:

"Joint pains, tiredness, dry skin – after 6 weeks tremendous improvement"

"The tiredness goes, there are no aches, and I can get on with my life"

"The difference this made to me was amazing, from feeling very low, moody and tired all the time to having energy and feeling so much happier in myself"

"...cold every week ...much better now ...no cold every week"

"Taking the Vitamin D has definitely been of benefit in preventing as many colds and respiratory symptoms..."

Irritable bowel syndrome — "...drastic improvements. My stomach cramps are almost nonexistent and I feel happier, healthier and have more energy than I have had in years. I have my zest for life back and I can't believe I'd never heard about the importance of Vitamin D, or that I could possibly be suffering from a lack of Vitamin D."

"...a spring in my step now"

"...get up the stairs easier"

"I am having less pain and am relieved to think that I will make retirement in five years"

* Food Standards Agency in Scotland. Vitamin D status of Scottish adults. Results from the 2010 & 2011 Scottish Health Surveys. Purdon G, Comrie F, Rutherford L, Marcinkiewicz A. September 2013

** Distribution of populated places with >25,000 persons north of 55° latitude. In this polar projection centered on Scotland, the 55th and 60th parallels are marked to show the approximate latitudinal extent of the country. The world's high-latitude population is concentrated west of the Ural Mountains from Central Russia and the southern Baltic region to Scotland.

Chaplin, George and Jablonski, Nina G. (2013) 'The Human Environment and the Vitamin D Compromise: Scotland as a Case Study in Human Biocultural Adaptation and Disease Susceptibility,' Human Biology, Vol. 85, Iss. 4, Article 2