Table 2. Guidance on Upfront Loading Dose Regimens to Replenish Vitamin D Stores in the Body

When serum Vitamin D levels are available, the doses provided in this table can be used for the longer-term maintenance of serum 25(OH)D concentration above 50 ng/mL (125 nmol/L). The table provides the initial bolus dose, weekly dose, frequency, and duration of administration of oral Vitamin D in non-emergency situations, in a non-obese, 70 kg adult.

Serum Vitamin D (ng/mL) **	Vitamin D Dose: Using 50,000 IU Capsules: Initial and Weekly $		Duration (Number of Weeks)	Total Amount Needed to Correct Vit. D, Deficiency (IU, in Millions) #
	Initial Bolus Dose (IU)	Follow-Up: $$ The Number of 50,000 IU Caps/Week		
<10	300,000	×3	8 to 10	1.5 to 1.8
11–15	200,000	×2	8 to 10	1.0 to 1.2
16–20	200,000	×2	6 to 8	0.8 to 1.0
21–30	100,000	× 2	4 to 6	0.5 to 0.7
31–40	100,000	×2	2 to 4	0.3 to 0.5
41–50	100,000	×1	2 to 4	0.2 to 0.3

Source: Nutrients'—Special Issue: "Vitamin D—Calcifediol and COVID" [92]

* A suitable daily or weekly maintenance dose to be started after completing the loading-dose schedule. The dose should be adjusted for those who are overweight (higher) or underweight (lower). ** To convert ng/mL to nmol/L, multiply the amount in ng by 2.5; One µg = 40 IU. $ Mentioned replacement doses can be taken as single, cumulative doses, two to three times a week spread out over a few weeks. $$ From day one of week two onwards. # Estimated total Vitamin D dose needed to replenish the body stores (i.e., the deficit) is provided in the last column.

Table 3. Vitamin D Dosing in the Absence of a Baseline Vitamin D Level

Longer-term maintenance schedules of oral Vitamin D based on body weight to maintain the levels above 50 ng/mL (125 nmol/L) when the serum 25(OH)D concentrations are unknown.

Bodyweight Category		Dose kg/Day (IU)	Dose (IU) (Daily or Weekly) *	
(Age) or Using BMI (for age > 18) (kg/Ht. M^2)	Average Body Weight (kg)		Daily Dose (IU)	Once a Week (IU)
(Age 1–5)	5–13	70	350–900	3000–5000
(Age 6–12)	14–40	70	1000–2800	7000–28,000
(Age 13–18)	40–50	70	2800–3500	20,000–25,000
BMI ≤ 19	50–60 (under-weight adult)	60 to 80	3500–5000	25,000–35,000
BMI < 29	70–90 (normal: non-obese)	70 to 90	5000–8000	35,000–50,000
BMI 30–39	90–120 (obese persons) #	90 to 130	8000–15,000	50,000–100,000
BMI ≥ 40 $	130–170 (morbidly obese) $	140 to 180	18,000–30,000	125,000–200,000

Source: Nutrients'—Special Issue: "Vitamin D—Calcifediol and COVID" [92]

* Example of a daily or once-a-week dose range for adults with specific body types (based on BMI for white Caucasians and body weight for other ethnic groups). Appropriate dose reductions are necessary for children. # For those with chronic comorbid conditions, such as hypertension, diabetes, asthma, COPD, CKD, depression, and osteoporosis, and to reduce all-cause mortality, higher doses of Vitamin D are needed. For them, one can use the doses that are recommended for persons with obesity (BMI, 30–39: the third row). $ Those with multiple sclerosis, cancer, migraine headaches, and psoriasis, and those routinely taking medications such as anti-epileptic and anti-retroviral agents that significantly increase the catabolism of Vitamin D should consider taking age-appropriate doses recommended for those with morbid obesity (BMI ≥ 40; the higher end of the daily doses in the fourth row).