The Power of UV Light and High-Dose Vitamin D_3

Lack of exposure to sunshine and thus low levels of vitamin D_3 are associated with most disease conditions, but Big Pharma and the health authorities are intent on outlawing higher-dose supplements despite scant evidence of any problems with toxicity.

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For most of human history, the negative effects of ultraviolet (UV) light deficiency on us hominids during winter were often attributed to "the gods" or even "evil spirits". Finally, in 1650, we started to figure out what was going on. It was just a scratch on the surface of the entire story and science of UV light and vitamin D_3.

In 17th-century England, with increasing levels of urbanisation, the rampant burning of coal blocked out the sun and began to lead to widespread vitamin D deficiencies in mothers and their newborns, who were kept mostly indoors. This led to the observation by a British doctor of a new disease called *rickets*. It led to many skeletal deformities in children aged six months to two years old, but once the children started playing outdoors after age two the disease seemed to go into remission.[1] Also around this time, another doctor described the problems of delivering infants through women's rickety pelvises. A few centuries later, in 1824, a German doctor discovered that cod-liver oil, which had been used medicinally for a long time, could be used to treat rickets.[2] It wasn't until 1906 that an English biochemist discovered vitamins as being dietary factors which were necessary to prevent diseases.

There was another line of research going on around this time, stimulated by the mysterious rays emitted by the 1901-patented invention of the mercury-vapour lamp.[3] This new kind of light gave off an ugly greenish glow but was heavily loaded with ultraviolet rays. In the early 1920s, researchers in England and then in the USA found that these mysterious rays when shone upon rats with rickets would cure the rats. Much to their surprise, the London scientists found that removing the rats and irradiating their empty glass jars also cured the rats of rickets![4] This initially set off a frenzy about the new curative mercury-lamp rays, which led to a booming new industry of miracle lamps.

If you look back at supposed "quack" devices that people used to cure disease in the 1920s, you will find lots of devices that emitted UV rays. The funny thing is that now that we know what we know, these were not quack devices but devices that might have had some beneficial effects similar to taking vitamin D_3 or cod-liver oil. You can see these antique miracle-ray machines still for sale as quack medicine curiosities on eBay.

Can you imagine being one of these scientists and finding that these mysterious UV rays not only cured rats of rickets when you exposed them to the rays, but also got rid of rickets when you irradiated *just their empty jars*? What magic it must have seemed! This led scientists to think that somehow the rays altered the air in the lidded glass jars to a curative nature. This was then tested by having the assistants blow the air out of the jars before the rats were returned and, lo and behold, the rats got rickets![5] For a few years they thought that UV radiation altered the air towards curative powers and pushed the scientific community towards the idea that disease came from "bad air". Thus tuberculosis patients were prescribed a therapy of sitting in large wooden structures, situated out in the windy western plains, with various

holes in them to circulate good air around them. Ironically, it turns out that low D_3 levels are now thought to be the primary cause of tuberculosis.

It was later found that the assistant who had blown the air out of the rats' jars also removed all the sawdust bedding first so that it would not blow back in his face. A later experiment where the bedding was not disturbed when the air was blown out found that irradiating empty rat jars with UV light and leaving the sawdust bedding and whatever it contained (i.e., faeces and rat oil) in place led to rats being cured of their rickets![6] This drove the scientists crazy!

They finally got it right when they stacked the rat jars on top of each other. They found that irradiated empty jars prevented rickets in the rats who lived in them and the ones who lived below, but not the ones who lived above![7] With this, they finally realised that the curative substance was a substance with gravity. This part of the history of the vitamin D_3 discovery has been basically ignored, but I find it fascinating.

In 1922, scientists working with dogs kept indoors had most of this information to work with when they finally discovered that a dietary substance contained in cod-liver oil could prevent rickets in dogs raised completely indoors. They called it "vitamin D" because vitamins A, B and C had already been identified. However, I say that the true discoverers of vitamin D_2 were the relatively unknown scientists who did the rat jars experiments!

The scientists doing the experiments with dogs had discovered that cod-liver oil contains the *animal* form of vitamin D, D_3, not the slightly different *plant* form, D_2. While the dog experiments eventually led to the isolation of vitamin D_3, the commercialisation of vitamin D in the 1920s came from mass production of the plant form, D_2, which came from irradiating plant products with ultraviolet light.

UV Irradiation and Vitamin D Creation

In 1923, American biochemist Harry Steenbock at the University of Wisconsin demonstrated that irradiation by UV light increased the vitamin-D content of foods and other organic materials. It was Steenbock who discovered that feeding UV-irradiated rodent food to rodents cured them of rickets.[8]

While most scientists of the day did not file patents on products of university research, Steenbock broke protocol and patented his irradiation technique to boost the vitamin D_2 content of foodstuffs, most memorably for milk. He then transferred his patent to the Wisconsin Alumni Research Foundation (WARF) of the University of Wisconsin and for many years hundreds of millions flowed into the fund, turning WARF into a research powerhouse whose inventions include the still popular blood-thinner Warfarin, named in honour of the fund. Finally, in 1943, his patent was invalidated by a federal appeals court which stated that Steenbock's process was a discovery and not an invention and was no more patentable than trying to patent the use of sunshine to boost vitamin D levels in grass.

It turns out that irradiating many organic substances with ultraviolet rays causes vitamin D to be created from a ubiquitous organic substrate. Vitamin D is created when irradiating milk or even mushrooms with UV rays. The first form of biologically active (in humans) vitamin D—the plant form, vitamin D_2—came from irradiating mushrooms and was given the name *ergocalciferol* ("ergo" coming from the word "ergot", meaning "fungus" or "mushroom"). However, vitamin D_2 is from a quarter to a sixteenth as active as the animal form of vitamin D—vitamin D_3 or *cholecalciferol*—which was isolated much later than the D_2 version.

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Potent Hormones

The active forms of vitamin D (vitamins D_3 and D_2) are not really vitamins at all. They are actually very potent hormones. Vitamin D was mislabelled as a vitamin when it was discovered in the 1920s because it was mistakenly thought to come only from the diet. But vitamin D_3 can be made in animals by UV light hitting the skin or fur. What happens in animals is that the UV light catalyses the conversion of a form of cholesterol (7-dehydrocholesterol) into vitamin D_3. In humans this occurs in or on the skin, while in animals it occurs on their fur and they ingest the vitamin D_3 during grooming.

Vitamin D_3 is a hormone that provides information to the DNA in every cell in your body, to tell the DNA to do things or not to do things. It is estimated to control at least 1,000 different genes by either turning them on or turning them off. It does this by attaching to very small receptors—vitamin D receptors (VDRs)—which are attached to genes in your DNA. However, the trigger-happy vitamin-naming scientists jumped the gun and classified the hormone vitamin D_3 as a vitamin, when it is not, because it was discovered in the diet. This mislabelling persists to this day and obscures the importance of this vital life-giving hormone.

For the most part, there is nothing inherently good or bad about vitamin D. Other than its role in helping your body absorb calcium, it provides information to your DNA. This is primarily a molecular form of information, just as most hormones are. But if you don't get this information, you will surely die!

So what is the vital information that vitamin D_2 or D_3 gives to your DNA that is so important? As you already know, the hypothesis is that it tells your DNA that the sun is shining! Now that's as far as you had to go to move in the direction of coming up with a pretty robust theory of the cause and cure of most human diseases. I'll go into this in detail in the latter part of this article.

The Myth of Vitamin D Toxicity

Now, let's return to the strange history of vitamin D, in particular the attempts by Big Pharma and the US Food and Drug Administration (FDA) to outlaw it. After the discovery of a way to make large amounts of vitamin D_2 easily and cheaply by shining UV light on organic matter, the US public in the late 1920s started taking it in droves. Dozens of foods, including hot dogs and beer, were being fortified with vitamin D by irradiation. Newspaper articles talked of the miracle of sunshine in a pill and touted its many health benefits. According to one scientist's account, the average person in the late 1920s and early 1930s was taking 20 milligrams (mg) of vitamin D_2 a day, and soon the hospitals were empty. Nobody was getting sick any more. The hospitals were all about to go bankrupt, along with the doctors and drug companies.[9]

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At about this time, studies with much higher doses than the human equivalent of 20 mg a day were being undertaken on dogs by various researchers. Some studies suggested that toxicities were being encountered at doses higher than 20 mg per day, but it turned out that toxicity was thought mostly to be caused by impurities in the preparation process. Later, better methods produced virtually nontoxic vitamin D_2. (Taking much higher levels than 20 mg, as with ingesting almost any substance in very excessive amounts, can be dangerous and ultimately toxic, so one does need to be careful with experimentation.)

So, one version of events is that some people in the drug/medical industry latched onto the idea of vitamin D toxicity to try to have vitamin D outlawed. Their first action was to change the unit of measurement of vitamin D_2 from milligrams to international units (IU), which we use today. All of a sudden, 20 mg became 1.0 million IU—which sounds much scarier indeed! Also, a study was performed where seven medical students were convinced to take massive enough doses of vitamin D to kill a horse and, lo and behold, the students got very sick, but recovered, and the experiment was stopped.[10] That was all that was needed, and medical authorities pressured vitamin D manufacturers and retailers to take vitamin D off the market.

As expected, there was a public outcry and in 1928 the US government decided to commission the University of Illinois at Chicago to undertake a comprehensive study of the question of vitamin D toxicity. The study lasted nine years, involved hundreds of doctors, 773 human subjects and 63 dogs, and resulted in what is known as the Steck report.[11] This report basically concluded that doses up to 20,000 IU per kilogram per day (or 1.0 million IU per the typical woman weighing 50 kilograms or 110 pounds) were safely tolerated in dogs for indeterminate lengths of time, even when taken for years. The report blamed prior cases of toxicity on improper production techniques and stated that the new Whittier process eliminated vitamin D toxicity. Among the human subjects, who were given doses of up to 200,000 IU a day for periods of seven days to five years, there were no deaths. One of the authors of the report took 3.0 million IU a day for 15 days without evidence of disturbance of any kind. Finally, they found that vitamin D intoxication from taking much higher amounts of vitamin D for short periods did not result in any recognisable permanent injury. The conclusion was that the burden of proof had shifted to those who maintained the undesirability of high-dose vitamin D therapy.

(Now, keep in mind that back then they were using vitamin D_2, which is a quarter to a sixteenth as active as vitamin D_3. Translating this into a safe range of D_3, we could infer that a person weighing 50 kilograms could safely ingest somewhere between 50,000 to 250,000 IU a day of D_3. I would suggest that a 50-kilogram person not exceed 50,000 IU a day until having a blood test. Make sure that you supplement with an adequate amount of vitamin K_2, which in my case was 1,000 micrograms (mcg) per each 10,000 IU of D_3 during my self-experiment, to be described shortly.)

A few subsequent studies in the 1930s and 1940s showed that massive doses of vitamin D_2 were quite effective in treating and curing arthritis.[12]

The American Medical Association and the drug industry ignored these studies and the Steck report, and continued to maintain that "vitamin D in doses over 400 IU a day may be toxic"! Since the 1930s, this has been the recommended amount of vitamin D that we are all supposed to take, according to doctors and the drug

industry—just enough to keep us from getting rickets and having our bones become soft!

To most outside observers, this behaviour of the drug companies, doctors and scientists to knowingly declare something toxic which had so much promise for treating and curing diseases, with the intent of keeping people sick and making money, might seem unethical. There is an oath, conceived by Hippocrates, the father of medicine, which supposedly all newly minted doctors take (98 per cent in the US and only 50 per cent in the UK). It includes the pledge: "I will prescribe regimens for the good of my patients according to my ability and my judgement and never do harm to anyone." I would think that knowingly calling a healing substance "toxic" would be in violation of this pledge.

It might all sound so preposterous—like a huge, evil conspiracy! But keep in mind that this was in the 1930s, and that in 1932 the US government and its Department of Health along with its doctors, scientists and researchers began the Tuskegee Syphilis Study. Rural black men with syphilis were recruited into this program and told that they would receive free health care. The true object of the study was just to sit and see what happened to humans with untreated syphilis. The study went on for 40 years until 1972, and no one blew the whistle even when all the men could have been cured with penicillin after 1945 when mass production began. The US government kept telling the study subjects that they were receiving medicine when in fact it was just a placebo. So much for the suppression of vitamin D being too evil for science, Big Pharma and the US government to get behind!

So, scientists and drug companies were telling us in the 1930s that any amount of vitamin D over 400 IU may be toxic. But somehow the drug industry saw fit to create three new miracle drugs—Dalsol, Deltalin and Drisdol—for use in treating cancer and other diseases. Each of these drugs was nothing more than a pill containing 50,000 IU of vitamin D_2 and a filler. The drug companies were not doing well during the Depression years of the 1930s, and they found that these "new" drugs, which actually worked, saved them financially but all the while they were telling the public that anything over 400 IU was toxic.[13] (More than 400 IU being dangerous is especially ridiculous when you consider that whole-body sunbathing for just 30 minutes produces 10,000 to 20,000 IU of vitamin D_3 in your skin!)

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Power-Grabs by Health Authorities and Big Pharma

Once the patent on vitamin D was invalidated in 1943, the drug companies needed to get vitamin D back under their control somehow. The campaign was started in New York in 1944 when the New York State Attorney General, Nathaniel Goldstein, ruled that vitamins were drugs and could only be sold by pharmacists and registered drugstores.[14] This ruling was quickly challenged in court and overturned, but Big Pharma was not going to give up easily.

In 1952, the FDA tried to outlaw the introduction of anything "new" in foods and consumables unless it gave affirmative permission in advance. This power-grab was rejected by the courts. In 1957, the FDA started prosecution of vendors of "malnutrition remedies" (vitamins) and began using the term "quack". In 1960, the FDA tried to limit the amount of folic acid in vitamins to 0.4 of a milligram, even though years later this amount would be found to be too low and so higher amounts were recommended for pregnant women to prevent neural tube defects in their newborns. In 1966, the FDA again tried to restrict the food industry's access to vitamins by proposing new controls on vitamin D fortification.[15]

In 1973, the FDA banned the sale of higher-dose vitamin A and vitamin D pills. This ban was later challenged by Dr Linus Pauling, the Nobel Prize–winning chemist, as a friend of the court in a lawsuit against the FDA. In 1974, US Congress reined in the FDA's overreach and forced it to regulate vitamins as food and not drugs. In 1976, Congress passed a bill blocking FDA and drug industry attempts to stop the sale of high-dose vitamins. In 1977, the FDA dropped its plans to require a doctor's prescription for high-dose vitamins. However, in 1979, the FDA tried again to have some vitamins classified as non-prescription drugs—another small first step towards a later ban. In 1992, the FDA with Texas health inspectors raided vitamin retailers and health food stores across the state, seized inventories and put people in prison, accusing the businessmen of making false health claims about vitamins. In 1993, the FDA again planned to regulate vitamins and any health claims about them. By 1994, the American people had had enough and forced Congress to pass the US Dietary Supplement Health and Education Act (DSHEA), which is basically "health freedom" legislation. DSHEA defines supplements as foods, and puts the onus on the FDA to

prove that a supplement poses significant or unreasonable risk of harm rather than on the manufacturer to prove the supplement's safety, reversing the burden of evidence required of medicines.[16]

The authorities never quit, though. In 2011, some corrupt, bought and paid-for nanny-state US politicians tried a back-door manoeuvre to regain control over vitamins and supplements by the FDA with their introduction of the Dietary Supplement Labeling Act of 2011. Their intent with this bill was to overthrow the effect of the 1994 DSHEA law which led to consumers having wide access to dietary supplements. They wanted to change what was essentially a notification process into a costly approval process. The net effect of the proposed regulation was to reclassify many nutritional compounds currently on the market as new dietary ingredients requiring FDA approval. Luckily for the US population, this recent back-door power-grab attempt also failed. But you can bet that the corrupted, nanny-state politicians owned by Big Pharma will be at it again sooner or later. Stay tuned.

Finally, the Codex Alimentarius Commission attempted a power-grab which is ongoing right now. The Commission is a United Nations Food and Agriculture Organization and World Health Organization entity whose purpose is to create a set of international standards to guide the world's growing food industry and to protect the health of consumers.

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Germany has been attempting to manipulate the Codex Committee on Nutrition and Foods for Special Dietary Use to further the interests of the German pharmaceutical industry by raising regulatory standards so that only the big drug companies such as Bayer, Boehringer Ingelheim, Evonik, Fresenius, Merck and Sandoz can survive.

The Committee's Proposed Draft Guidelines for Dietary Supplements call for the following:

- No dietary supplement can be sold for prophylactic (preventive or therapeutic) use (goodbye vitamin D!);
- No dietary supplement sold as a food can exceed potency (dosage) levels set by the Commission (goodbye high-dose vitamin D!);
- Codex standards for dietary supplements would become binding (the government wins, you lose!);
- All new dietary supplements would automatically be banned unless they conform to Codex standards (which would require going through a very expensive drug-like approval process).

Wow! Are we going to put up with this? Who do they think they are?

If the US signs on to the Codex, the FDA will have the power to shut down health food stores and prohibit the sale of vitamins except by prescription only at approved drugstores.

To see what the future might hold for the sale of vitamins and supplements all over the world under the Codex, you need only to go to Germany to try to stock up. There are no competing brands placed out on accessible shelves. You can only obtain overpriced, low-dosage vitamins at special sterile stores called apothecaries which are staffed by pharmacists in clean white jackets. You are not free to touch the extremely overpriced vitamins which are kept safely behind the counter. The pharmacist brings them to you, asks you many questions and wants to see your prescription.

In Germany, there is the Rote Liste® where you can find a complete listing of international pharmaceutical firms which manufacture patented analogues of extremely overpriced dietary supplements sold as over-the-counter and prescription drugs. Through this, you can see which companies are trying to manipulate the Codex process.

My Story with Vitamin D

Now that we have considered the history of vitamin D, let me detail my own story with vitamin D.[17] I have never been a person who easily accepted or even considered conspiracy theories. In fact, my whole life I have been just the opposite: very dismissive of conspiracy theories! Recently, though, I've started to wonder about what possible conspiracy I might have uncovered. This conspiracy involves doctors giving us almost criminal advice for years: stay out of the sun, use sunscreen, and don't take too much vitamin D because it's dangerous!

From the 1980s when doctors started warning us to avoid the sun and use sunscreen, the rates of obesity, autism, asthma and other diseases have increased explosively. The First Lady of the United States, Michelle Obama, is trying to fight obesity in children by encouraging them to eat better food and exercise more. But what if something else is causing their problems, such as lack of vitamin D_3 due to lack of sun exposure?

As a child, I had medical issues such as asthma, attention deficit hyperactivity disorder and scleroderma morphea. After the age of 28, I started accumulating injuries and issues that doctors could not easily heal, such as yellow toenail fungus, a facial subcutaneous cyst, a hip click, a bone spur on my elbow, a ganglion cyst on my wrist, and arthritic-popping shoulders and back.

After many years of doing independent research on ageing and disease, I came across an article about eight years ago which suggested that 80 per cent of people with aches and pains are deficient in vitamin D_3.[18] As

soon as I read it, I started taking 4,000 IU a day of vitamin D_3 (10 times the daily recommended dose of 400 IU) and within a month almost all of my arthritic issues went away. However, the hip click, yellow toenails, ganglion cyst and subcutaneous cyst stubbornly remained.

Flash forward about six years. My father, who had been taking 2,000 IU of vitamin D_3 a day for years (five times the recommended daily dose) had his first vitamin D_3 blood test come back at 29 nanograms per millilitre (ng/mL)—1.0 ng lower than the lowest end of the reference range, meaning that he should already be dead! This was my Eureka moment! I guessed that my family might be genetically programmed to be low in D_3, so I upped my dose to 20,000 IU a day and later boosted it to 50,000 and even 100,000 IU a day—and the rest is (my) history.

Within a month, I started feeling lots of energy but also pain in my bones and joints that had never healed properly. I was not scared because I had read that vitamin D_3 was considered the bone and joint remodelling hormone. I'd also read that rats whose legs were broken and given D_3 had perfectly healed breaks, while the control rats had breaks with a large callus remaining around the repair.

Within five months, my yellow toenails were clearing up, my hip click was dissolving and my shoulders were being repaired even better than before (at 4,000 IU a day). After a year, I noticed that the bone spur on my elbow had disappeared, my subcutaneous cyst had popped and was gone, and my ganglion cyst shrank from the size of half a fleshy golf ball to that of a rock-hard painless pea.

I wondered: why would evolution evolve a sunshine-activated hormone? This led me to the idea of the *incomplete repair syndrome*, where evolution thinks that you are stuck in winter when resources are scarce, so it will repair and maintain you just enough to get by and no more. Then, the D_3 sunshine signal announces that summer is here and resources are available, so your body will then undo the incomplete repairs and redo them properly using all the resources necessary.

I then found that a large drop in D_3 levels is a major signal for bears to prepare for hibernation, which includes increasing body weight by 70 per cent.[19] More research and, lo and behold, I found that obese people are overwhelmingly deficient in vitamin D_3! This led me to the next idea of a higher-level syndrome: the *human hibernation syndrome* (HHS), where if someone attains low levels of vitamin D_3 all year and all life long by avoiding the sun and using sunscreen then he or she eventually will become obese to prepare for hibernation during the expected winter famine. In addition to weight gain, HHS might also reduce the expenditure of precious energy. With this in mind, HHS might also promote depression to keep you house/cave-bound. Low D_3 also makes us more susceptible to the normally harmless influenza, which requires a week in bed and further conserves precious energy. Arthritis? It discourages energy expenditure from running around, or it could just be part of the incomplete repair syndrome, conserving precious calcium with incomplete repairs.

I then read or browsed all 52,000 science articles and studies from 1967 to the present, available on the PubMed database, for "Vitamin D" (there are now 55,000 articles) and discovered that low vitamin D_3 levels are associated with almost every disease known to man which is not caused by ageing or genetic mutations.

Here's a small sample of these conditions: autism, asthma, diabetes, severe hypoglycaemia, chronic wounds, multiple sclerosis, lupus, kidney and lung diseases, 17 types of cancer, glaucoma, macular degeneration, Crohn's disease, irritable bowel syndrome and ulcerative colitis, hypertension, rheumatoid arthritis, schizophrenia, allergies, tuberculosis, heart diseases, ulcers, cavities, Parkinson's disease, stroke, psoriasis, dandruff, all pregnancy complications, migraines, menstrual cramps and premenstrual syndrome, and many more. Any common disease in humans seems to be caused by low levels of sun exposure and thus low levels of vitamin D_3 in your blood.

> **...low vitamin D_3 levels are associated with almost every disease known to man which is not caused by ageing or genetic mutations.**

It's quite easy to see which diseases are caused by low levels of vitamin D_3: you just need to look at the geographical distribution and incidence of the disease. If, like most of them, they are much reduced at the equator and are much higher in the extreme latitudes[20] then it's clear that they are vitamin D_3 related and can be cured with high doses. If most diseases could be prevented by boosting D_3 from 30 ng/mL, which is low but typical, to 80–100 ng/mL or higher, what do you think would happen to the profits generated from Big Pharma's drugs if it became known that D_3 prevented and was the superior treatment for all these diseases? The profits and jobs would disappear overnight!

One might imagine a Dr Evil–like, Big Pharma executive who somehow knows this information (and should know), thinking: "Vitamin D_3 is the enemy of our existence! We must suppress the idea of taking high-dose D_3 at all costs!" Discovering the D_3 deficiency disease link was not that hard of a nut to crack for me and for a lot of MDs with their books out there. And if *we* did it, how is it that Big Pharma with all these billions of

dollars and years of research into all these different drugs didn't find this out a long time ago?

Pharmaceutical companies' drugs seem to be designed to mimic what high-dose D_3 does, but they are not D_3, the sunshine hormone, and have nasty side effects. Why would these companies feed us such dubious drugs if they have knowledge of the superior curative effects of high-dose D_3 (which they should)? Answer: to make a profit, because they cannot patent vitamin D_3. They cannot patent sunshine!

So, I'm beginning to wonder if a few Big Pharma executives know this truth but decided to demonise D_3 by creating a fear of scary side effects such as excess calcification of tissues (which can occur at doses of several million IU or more per day, but probably only if you do not take ample vitamin K_2 with the D_3) and drumming the idea into all medical students that high-dose D_3 is very dangerous.

In my research on D_3, I looked at all the PubMed science articles which describe vitamin D_3 toxicity and I discovered that almost all of them are reports of doctors' patients who took relatively huge doses of D_3 for long periods and had no ill effects. The doctors were dumbfounded, as it contradicted everything they'd learned in medical school. Another thing I learned is that the effects of extreme-high-dose D_3 are very similar to the effects of a vitamin K_2 deficiency, so if you try high-dose D_3 then also take a lot of vitamin K_2.[21]

Pharmaceutical companies' drugs seem to be designed to mimic what high-dose D_3 does, but they are not D_3, the sunshine hormone, and have nasty side effects.

As far as answering the question as to whether today's drug companies and researchers actually know about the curative powers of high-dose vitamin D_3 but are suppressing this knowledge for profit, I punt. I'm almost scared to find the true answer. So it's up to you to decide. Is there something sinister behind the Big Pharma/medical community's exaggerated fear of the dangers of high-dose vitamin D_3? ∞

About the Author:

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Endnotes

1. Claerr, Jennifer, "The History of Rickets, Scurvy and Other Nutritional Deficiencies: An Interesting Treatise on Human Stupidity", Yahoo! Voices, 6 February 2008, http://tinyurl.com/cz4edn3

2. Schütte, D., "Beobachtungen über den Nutzen des Berger Leberthrans" ("Observations on the use of Berger cod-liver oil"), *Archiv für medizinische Erfahrung* 1824; 2:79-92

3. *Encyclopædia Britannica*, "Peter Cooper Hewitt" entry

4. Carpenter, Kenneth J. and Ling Zhao, "Forgotten Mysteries in the Early History of Vitamin D", J. *Nutr.* 1999, May 1; 129(5)923-927, http://tinyurl.com/ckhmz6o

5. ibid.

6. ibid.

7. ibid.

8. Rajakumar, K. et al., "Solar Ultraviolet Radiation and Vitamin D: A Historical Perspective", *Am. J. Public Health* 2007 Oct; 97(10):1746-1754, http://tinyurl.com/d6pfllz

9. Account attributed to the late famous vitamin D/calcium researcher Carl Reich, MD, in: Robert R. Barefoot, *The Disease Conspiracy*: "*The* FDA *Suppression of Cures*", Pan American International Nutritional Ltd, 2005, p. 141

10. Barefoot, op. cit., p. 169

11. Steck, I.E. et al., "Further Studies on Intoxication with Vitamin D", *Annals of Internal Medicine* 1937 Jan; 10(7), http://tinyurl.com/cw9jzja

12. Snyder, G.G. et al., "A Preliminary Report on Activated Ergosterol (A Form of High Dosage Vitamin-D in the Treatment of Chronic Arthritis)", *New York State Journal of Medicine*, 1 May 1940, pp. 708-719; similar studies cited in Robert R. Barefoot, op. cit.

13. Barefoot, op. cit., p. 143

14. *New York Times*, "Vitamin Tablets Are Ruled Drugs and General Sale in State Curbed", 24 June 1944, pp. 1-2

15. References cited in Barefoot, op. cit., pp. 198, 201, 203-4

16. Barefoot, op. cit., pp. 208-220

17. Bowles, Jeff T., *The Miraculous Results of Extremely High Doses of Vitamin* D3: *A Year-long Experiment with Huge Doses of the Sunshine Hormone from* 25,000 *to* 100,000 IU/*Day*, Jeff T. Bowles Publishing LLC, 2011, 2013 (e-book), http://tinyurl.com/d2drzrj

18. Plotnikoff, G.A. and J.M. Quigley, "Prevalence of severe hypovitaminosis D in patients with persistent, nonspecific musculoskeletal pain", *Mayo Clin. Proc.* 2003 Dec; 78(12):1463-70, http://tinyurl.com/cfhtxew

19. Vestergaard, Peter et al., "Vitamin D Status and Bone and Connective Tissue Turnover in Brown Bears (*Ursus arctos*) during Hibernation and the Active State", 2011, PLoS ONE 6(6): e21483, http://tinyurl.com/c565bxg

20. Autoimmunity Research Foundation, "Latitude studies on vitamin D and disease", 2012, http://tinyurl.com/d8jt3tz

21. Bowles, op. cit.